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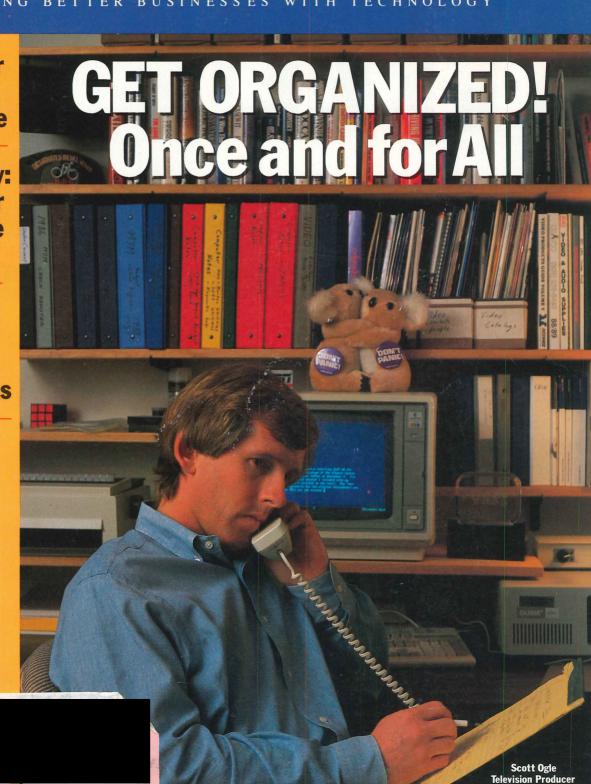
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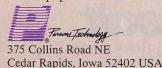


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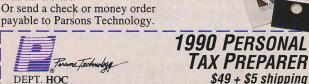
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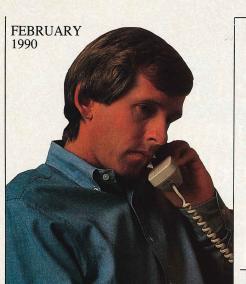
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COVER PHOTOGRAPH BY JEFF STINE

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The Technology Store is your

Radio Shack is the one place to go for all your home office needs. You'll find a wide selection of affordable, high-quality, dependable products—all under one roof! Buy with confidence, knowing our exclusive famousname brands are known for their long-lasting reliability and outstanding value. And at Radio Shack, we back everything we sell with the service and support you deserve.

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Getting Organized For Me, The Impossible Dream?



Some days I'm just not with it. Today is one of them. I'm suffering from jet lag, for which I don't expect much sympathy; my house is less orderly than I would like; and my office is totally out of control. It probably always has been. Being organized is just not my thing.

In fact, I am so hopeless in this area that I don't dare lie. If I were to write, in relation to this month's cover story, about the ease of getting organized, my coworkers would roll on the floor laughing (and nothing would get done). My home phone would ring off the hook, with hysterical friends and family members stomping on my last shred of credibility.

I am a known, publicly acknowledged mess-nik. To some extent, I like mess. I certainly prefer it, in moderation, to a surfeit of orderliness. In fact, a few years ago, I had to tidy up when a film crew came to our offices, but I made things so neat, I was unable to work. These days, I barely bother—this is, after all, the way I am.

Or is it? I think that deep down, I believe that this messiness of mine is a fatal flaw. Secretly, part of me craves to have drawers and closets I could fearlessly open to anyone's inspection, and how about a purse with no floating (actually it's sinking) debris—one I'm not afraid to put my hand

I doubt that I'll ever give up these dreams. It is in their spirit that I always hope the right organizational scheme or new invention or software package will come along and make the difference. It is in that same spirit that I am now trying to manage my work, my time, and my record-keeping—for starters—with an information-management program.

The promise of this package first struck me when I read a review we were planning to run in the magazine. It sounded like an ideal way to remove countless bits and pieces of paper from my life, to consolidate scheduling, to track expenses, and to organize notes. Above all, the review made me feel that I might be able to gain some sense of orderliness from such a program.

However, it wasn't until I began to write this editor's note that I realized I had to take action. I felt bold confessing to the lack of order around me, but what was the point of my message? How could I, the editor of this magazine, resign myself to slovenliness without even enlisting the help of my computer in trying to end it once and for all?

So here I am. Trying. It's late on a Sunday afternoon. I've invested a few hours in reading the documentation, which holds my interest despite its fuzziness and other imperfections. The program is already loaded onto my hard-disk drive. I enter some dates in the daily calendar and add a few notes. Even my to-do list is now electronic. I see the payoff. There may be hope for me yet. I'll keep notes, and if there's any significant progress, I'll let you know. With my newfound organization, my progress should be a snap to chronicle.

Claudia Core

CLAUDIA COHL **EDITOR-IN-CHIEF**

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LETTERS

E-MAIL ELABORATION

I'm sure the article "Fax It by Modem" in the October issue (page 38) shed some light on e-mail-based fax services for many of your readers.

Faxing via e-mail is an exciting capability that immediately creates a productivity boost. However, I would have liked to have seen even more written about the Xpedite Systems service mentioned.

I am an Xpedite subscriber and am very pleased with the service so far. There are some minor drawbacks, however: During peak times it can take up to 90 minutes for your fax to be delivered. But the final package still beats out an expensive stand-alone fax machine if you have light to moderate fax needs. I did a cost analysis of a threeyear amortization of a \$900 fax machine versus Xpedite, and the service won.

The article also left the impression that you still can't send graphics via e-mail fax. Not true-my faxes, produced with PFS: First Publisher, include clip art that can be sent via Xpedite. Incoming faxes with graphics look terrific as well.

JOHN KONEN Boone, North Carolina

LOOK IT UP

I have been a subscriber to HOME-OFFICE COMPUTING and a home-business operator for over a year. I am a state-government affairs consultant managing issues and programs for national corporations and associations. I am writing to extend kudos to you for producing the most valuable publication I receive.

I save each issue, and I am constantly amazed at how many times I go back to articles in past issues. Even when space gets tight, HOME-OFFICE COMPUTING is never a candidate for the trash bin.

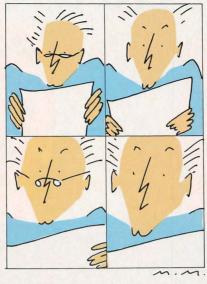
Recently, I was presented with an opportunity to expand my business and felt it was time to develop a proper business plan. Of course, there was an article in a back issue that had all the information I needed to get started ("Your Business Plan: Road Map to Success," April 1989, page 49).

You can be assured that I will be a perennial subscriber to your fine publicationeven if expansion means sacrificing the home-based aspect of my business.

> CONSTANCE CAMPANELLA STATESIDE ASSOCIATES

BETTER HOMES & OFFICES

I can't tell you how much I enjoy my subscription to HOME-OFFICE COMPUTING! Each issue is fresh and vibrant and brings me new and usable ideas for my home-



based business. I regard your magazine as a friend—not merely a monthly publication because of the support and reassurance it has given me in the recent establishment of my home office.

In the October issue, I particularly enjoyed Nick Sullivan's Workstyles piece ("My Office, My Castle," page 104). I only wish photos of Sullivan's office accompanied the story. In fact, I think your readers might enjoy a look at photos of other people's home offices around the country.

ROBERT E. CARL Dallas, Texas

EDITOR'S NOTE: We agree. Readers who wish to take a gander at superbly laid out, and superbly organized, home offices should read this month's cover story.

CAVEAT EMPTOR

I was disturbed by Elliot King's article in the November issue ("The Truth Behind Get-Rich-Quick Ads," page 61).

He characterized a company whose product worth was questionable and that had a start-up fee of \$18,000 to operate "à la Amway." He further stated that "responding to [these companies'] ads is like buying lottery tickets," and that "some people made money with Amway; . . . many did not.'

I have been an Amway distributor for several years and have not made a lot of money. However, my success rate is not due to the Amway Corporation, their products, or their selling plan. I haven't made Arlington, Virginia the kind of money I'd like to make because I don't do the work-not because it doesn't work. I know several people who have been successful with the Amway plan; they are successful because they have been able to put in the necessary time and effort.

Mr. King is correct to cry "Buyer be-

ware!" when it comes to get-rich-quick ideas. But for my money, Amway doesn't fall into that category.

> JERRY LIPHAM J&M ENTERPRISES Chesapeake, Virginia

ON TARGET

I have been receiving HOME-OFFICE COM-PUTING for about a year and thoroughly enjoy it. In addition to a full-time job for a major telecommunications company, I also have a part-time home-based business.

I can only describe your publication as "reader friendly." You present articles that are truly of interest to home-based business people like myself-people who want to find out more about utilizing a computer as a business tool without getting bogged down in the technical esoterica of computing.

JAMES DUNN Virginia Beach, Virginia

CORRECTIONS/UPDATES

The credit for the photograph was left off the November Editor's Note ("Technical Expertise We Can All Count On," page 7). The photographer was David Hautzig.

Because of an editing error, we incorrectly reported in the November Machine Specifics column (page 24) that SpinRite, from Gibson Research, restores bad sectors and speeds up hard-disk-drive performance by defragmenting files on the drive. In actuality, SpinRite restores bad sectors by performing low-level formatting on the diskwithout overwriting data.

An incorrect phone number was listed for The Software Toolworks in the mention of Gin King/Cribbage King in the December issue ("Great Gifts for the Home Office," page 59). The correct number is (818) 885-9000.

There have been significant price reductions for two of the laser printers we reviewed in January's "Buyer's Guide to Laser Printers" (page 53). Epson's EPL-6000, which at press time retailed for \$1,899, now retails for \$1,499. The Ricoh PC Laser 6000RS Post-Script-compatible laser printer's price has dropped from \$4,495 to \$3,499. ■

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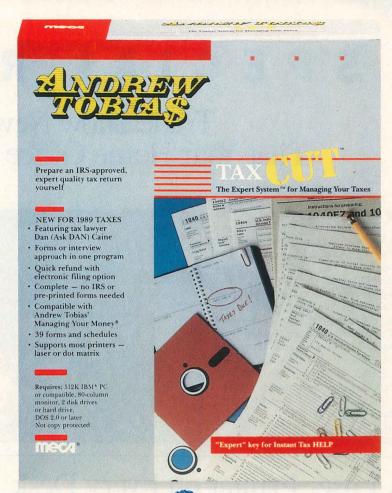
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Philadelphia Inquirer

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SPECIAL REPORT

Trade Show News That Your Home Office Can Use

A record number of computer dealers, exhibitors, journalists, and enthusiasts descended upon 1,729 exhibits covering 930,000 square feet of floor space at 10 Las Vegas venues for this year's fall Comdex (Computer Distributor Exposition). The 115,000-plus attendees created, according to area cab drivers, the biggest traffic nightmare Las Vegas has had since the National Rodeo Championships came through town last winter. Never-ending cab lines and jammed-to-capacity show floor aside, it was hard to ignore the exciting new computer and office technology that promises to deliver even more power and ease of use to home-based business people.

Powerful laptops attracted attention in Las Vegas. With new models sporting VGA



graphics, lightweight hard-disk drives, and 286 and 386SX performance, it has become even more likely that a laptop may be the only computer you'll ever need for your

Predictably, many manufacturers showed computers based on Intel's powerful new i486 chip. The most interesting impact of these state-of-the-art products for homebased professionals may well be how much. and how soon, they drive down the price of 286- and 386-based computers.

Software exhibitors rolled out several packages in nearly every category to run under the Windows and Presentation Manager graphical operating environments.

And laser printers have come to the masses. With sharp new products from major manufacturers and price-reduction announcements dominating the floor, the excuses not to buy a laser printer for your business grow thinner and thinner. Dot-matrix printer manufacturers, however, seem dead set on giving you good reasons to stay in the impact camp. A flock of inexpensive dot-matrix products were shown in Vegas.

These and other technological trends all point to the imminent availability of better computer and office technology for your business.

A Laser Printer on Every Desk

Everywhere you looked at Comdex there Priced at about \$50 above the IIP, the LBPwere laser printers, and their prices were tumbling like rubble in an earthquake. The barrage started with the market-shaking appearance (last October) of the Hewlett-Packard Series IIP, priced at \$1,499. Many aftershocks rippled through Vegas.

The IIP established the trend toward highquality print at a bargain price, balanced by slower speed. To gain a foothold in this market, competing vendors are not only chipping away at prices, but they're adding value as well.

One of the newcomers announced at Comdex was Okidata's OkiLaser 400, a 4page-per-minute (ppm), HP-compatible printer that provides more built-in fonts than the IIP, including Times and Helvetica clones. The OkiLaser lists for \$1,395.

Canon demonstrated its long-awaited LBP-4. This IIP twin (Canon manufactures the engine around which both printers are built) offers scalable fonts (Times and Helvetica clones in four styles that can be reproduced in a wide range of sizes), in addition to standard bit-mapped versions of the Courier font for a wealth of type choices.

4 is a bargain. It does not, however, offer HP emulation; purchasers will have to rely on Canon's kit of printer-definition files for software compatibility.

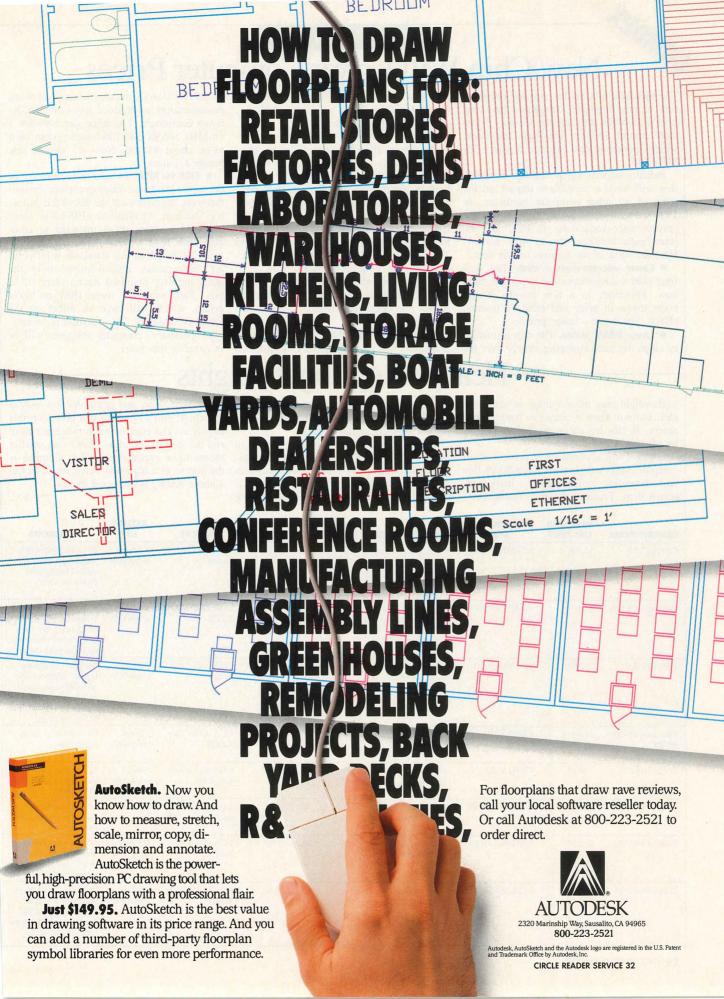
Many of the post-IIP shock waves came in the form of lower prices for printers that have been on the market for a while. Epson's EPL-6000, a 6-ppm HP compatible, was slashed from the \$1,899 price niche that it established just a few months ago to \$1,499—a 6-ppm printer at a 4-ppm price. Even more dramatic was the price drop of Ricoh's PC 6000 Laser/PS, a Post-Script laser with HP emulation, which plummeted \$1,000, landing at an unprecedented \$3,495.

Moving into the \$1,900 price niche vacated by the Epson is the KX-P4420, a new 8ppm HP compatible from Panasonic-a serious office printer. With lots of fonts, a 250-sheet paper tray, ample expandability, and a price \$900 below the comparable HP Series II, the 4420 establishes another dramatic new price-performance standard: the 8-ppm laser at a 6-ppm price.

—E.Р.S.

Dot Matrix Lives

One product manager offered the opinion that dot-matrix printers were dead, but you'd never know it from touring Comdex. Prices continue to tumble even as quality improves and features (and models) multiply. NEC, AEG Olympia, Okidata, and Star Micronics, for example, all showed recently introduced 24-pin, standard-carriage models with generous selections of fonts and reasonably fast near-letter-quality output. All will be in the \$300-and-under price range. Panasonic launched a double threat. Two wide-carriage printers—one font-filled 24pin model (\$700) and a speedy 9-pin companion (\$240) that prints at 330 characters per second in draft mode.



COMDEX

New Chip Will Lower Computer Prices

The highlight of Comdex was the introduction of new high-end computers based on Intel's 25-MHz i486 microprocessor. Prices start around \$10,000 for these machines. which operate at least twice as fast as a 33-MHz 386.

Industry experts agree that this introduction will have a significant impact on the price of all other computer hardware. In 1990 we will see anywhere from 10 to 20 percent price reductions on PCs, and the price gaps between classes will narrow. Here are some of the reasons for the sale.

- Lower microprocessor cost. The new Intel i486 microprocessor is expensive right now. However, in a few months it will come down in price and create a domino effect. The result—lower prices.
- Lower DRAM prices. The cost of memory chips has been dropping slowly over the

4-megabit chips begin to ship in volume, chip prices will drop steadily.

- Lower chip count. Computers that require fewer chips have smaller motherboards. Smaller motherboards fit in smaller casings. Smaller casings reduce weight. Lighter weight means lower shipping cost. The bottom line is a less expensive computer that takes up less of your valuable desk space. Companies such as Texas Instruments, Chip & Technologies, and Headland Technology are shipping chip sets that reduce the total chip requirement.
- More competition. Competition almost always benefits consumers. As more companies introduce new models, we will see lower prices.
- Low cost 16-MHz 80386SX microprocessor. Intel is aggressively pushing the

past several months. As the higher-density 16-MHz 80386SX microprocessor, allowing manufacturers to produce low-cost 386SXbased computers. The price gap between a 16-MHz 386SX and 286-based system used to be about \$1,000. Now it's only a few hundred dollars.

> • EISA vs. MCA. To take full advantage of the new i486-based microprocessor, manufacturers have adopted the Extended Industry Standard Architecture (EISA) in these high-end systems. It is intended to compete with IBM's Micro Channel Architecture (MCA). Both bus standards offer similar performance improvements over the older Industry Standard Architecture (ISA) bus. This war will force IBM to lower prices, which will have an effect on the entire PC industry. The question is, when?

In summary, computer shoppers will be in paradise this year.

Heavy-Duty Lightweights

Lightweight may mean wimpy in some cir- ers as well as some newcomers displayed cles, but not when it comes to laptop computers. In this hot category, light carries a lot of weight.

Laptops will account for 9 percent of all computer units sold in the United States this year, according to Dataquest, a market-research firm. Traditional laptop manufacturtheir laptops at Comdex in hopes of capturing the growing laptop market.

Here is a roundup of what's available in lightweight MS-DOS-compatible laptops. These machines vary most in such features as disk-drive capacity (720K or 1.44MB), backlighting (for visibility in varied lighting

conditions), size, and price. As you look at this chart, you will notice that price depends largely on the type of microprocessor used and the size of the unit—faster and smaller means more expensive. So far, Compag is the first to fit a hard-disk drive into a laptop without adding pounds and inches.

-S.C.

	The second second second							
COMPANY/MODEL	SUGGESTED LIST PRICE	MICROPROCESSOR SPEED	CONFIGURATION	WEIGHT (POUNDS)	SIZE (INCHES)	DISPLAY	BATTERY LIFE	COMMENTS
Compaq LTE	\$2,399	9.54 MHz 80C86	640K; one 3.5-inch 1.44MB floppy; 20MB hard-drive model available (add 5 oz)	6.2	8.5 x 11 x 1.9	CGA (640 x 200); backlit	3.5 hours; removable	The only lightweight with a hard drive or second floppy drive; power for a price
Compaq LTE/286	\$3,899	12 MHz 80C86	640K; one 3.5-inch 1.44MB floppy; 20MB or 40MB hard-drive model available (add 5 oz)	6.2	8.5 x 11 x 1.9	CGA (640 x 200); backlit	3.5 hours; removable	Fastest lightweight; optional 40MB hard drive (add 5 oz); for power users who don't mind the price tag
NEC Ultralite	\$2,499	9.83 MHz V-30	1MB; no floppy drive; one ROM- card slot	4.4	8.3 x 11.7 x 1.4	CGA (640 x 200); backlit	2 hours; removable	Smallest and lightest laptop; software comes on ROM cards instead of 3.5-inch disks; loses portability with addition of external floppy
Panasonic CF-150 BP/KG	\$1,149	8 MHz V-20	640K; one 3.5-inch 720K floppy	6.2	9.8 x 12.1 x 2.4	CGA (640 x 200); backlit	4 hours; removable	Great price; good in dim light
Tandy 1100FD	\$999	8 MHz V-20	640K; one 3.5-inch 720K floppy	6.4	9.8 x 12.1 x 2.4	CGA (640 x 200); not backlit	5 hours; removable	Great price; comes with DeskMate and 8 other applications
Toshiba T1000	\$999	4.77 MHz 80C88	512K; one 3.5-inch 720K floppy	6.4	11 x 12.2 x 2.1	CGA (640 x 200); not backlit	5 hours; fixed	Low cost makes it attractive for light use; tried and true
Toshiba T1000SE	\$1,699	9.54 MHz 80C86	1MB; one 3.5-inch 1.44MB floppy	5.9	10.2 x 12.4 x 1.8	CGA (640 x 400); backlit	2.5 hours; removable	Crisp screen display; high-capacity floppy helps compensate for lack of hard drive
Zenith MinisPort	\$1,999	8 MHz 80C88	1MB; one 2-inch 720K floppy	5.9	9.8 x 12.4 x 1.3	CGA (640 x 200); backlit	3 hours; removable	Uses new 2-inch disks instead of 3.5-inch standard, so you still need an external floppy for full functionality

For us, an office is anyplace you do business.



Work isn't the only place where work gets done.

Sometimes business can take you door to door. Or office to office. Or for that matter, city to city.

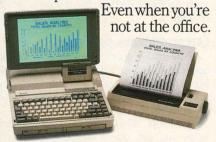
So, at Toshiba, we make computers and printers that are as mobile as you are.

Our full line of very portable, very powerful PCs ranges from a 6.4-pound battery-operated laptop, to a 19-pound AC-powered portable workstation.

And our full line of very reliable printers includes a letter-quality, battery-operated portable that weighs less than some printer instruction manuals.

So whether you're working independently or networking at the office, you can get your ideas across virtually any way you want, any time you want.

All of which means that it's now possible to be the most productive person at the office.



Express Writer 301: 4 lbs, letter-quality, 24-dot print head, 60cps, Toshiba/Qume and Epson LQ emulations, 5 resident fonts.

T1600: Battery-powered 286/12MHz 20MB and 40 MB hard disk models. 1.44MB 3½" diskette drive, 1MB RAM expandable to 5MB, detachable backlit EGA compatible LCD, removable rechargeable battery packs.

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CIRCLE READER SERVICE 63

UP FRONT

Do You Dream in Color?

Color printers are invaluable for such applications as advertising production, illustration, and package layout. But the cost of high-resolution color printing—meaning laser color—has hovered around \$15,000 for some time. Fall Comdex ushered in a new era with brilliant 300-dot-per-inch thermaltransfer color printers from a number of vendors, including LaserMaster (OMS).

Seiko, and NEC, at around \$10,000. Panasonic introduced a lower-resolution model that pushes the price barrier down another \$2,000. It doesn't, of course, mean that all home-based business owners will rush right out and acquire one of these technicolor dreams, but a one-third reduction in the cost of any potentially useful tool is always news.

—E.P.S.



A color printout from Seiko's CH5504 Color Thermal Printer

The Great Growth of Graphical User Interfaces

I'm a conservative shopper. That's why I would never buy a computer system until the market was filled with the fruits of the programmers' arts: plenty of capable, easy-to-use software.

I was excited, then, by the major software introductions at Comdex, proving that the market is finally ripe for the *Windows* and *Presentation Manager (PM)* graphical-user-interfaces, which create an intuitive software environment similar to a Macintosh's.

As these software products and others reach the market, and as memory and microprocessors become cheaper, the growth of graphical user interfaces promises to help you get work done with fewer hassles and less time spent learning your system. Isn't that the goal of all of computing?

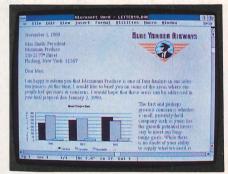
Here are some of the most important software packages due out for *Windows* or *PM* or both.

LATEST WINDOWS SOFTWARE

As Windows grows more capable with its upcoming version 3.0, IBM's formal backing will help drive more software publishers to develop applications for it. But so will the competition.

Microsoft Word for Windows (\$495) helps you get your thoughts down easily with well-implemented features like an outliner and split views of the same document. Word for Windows looks like Word on the Mac, but it merges the best features from the MS-DOS version with the Mac's smoother interface. (Microsoft Corporation, [206] 882-8080. System requirements: 640K IBM PC AT, PS/2 with 80286 or 80386 microprocessor; hard-disk drive; mouse recommended; MS-DOS 3.0 or higher.)

Competing strongly for the Windows word-processing market will be Amí Professional (the higher-end version of Amí, which we reviewed in the June 1989 issue). What extras do you get for \$495? To highlight a few, Amí Pro will import a wide array of graphics, including TIF (scanned),



Microsoft Word for Windows (above) and Amí Professional are the first wave of graphical word processors for MS-DOS

PCX (bit-mapped), PIC (object-oriented), and EPS (Encapsulated PostScript) files. It can even create charts: columns, bar, pie, line, and five others, with desktop-publishing capabilities such as scaling, cropping, and exact positioning of graphics. *Amí Pro* takes full advantage of *Windows*' DDE (Dynamic Data Exchange) for creating "hot links" that actively share data between *Amí Pro* and other applications running under *Windows*. (Samna Corporation, [404] 851-0007. System requirements: 640K IBM PC AT, PS/2 with 80286 or 80386 microprocessor; hard-disk drive; mouse recommended; MS-DOS 3.0 or higher.)

On the graphics editor side, the inexpensive (\$149) PC Paintbrush Plus for Windows works with other Windows applications—and most scanners—to produce PCX and TIF images for your word-processed or desktop-published documents. My favorite features include Pre-scan (which alleviates the frustration of scanning trial and error) and the ability to cut and paste graphics back and forth from other applications. (ZSoft Corporation, [404] 428-0008. System requirements: 640K IBM PC AT, PS/2 with 80286 or 80386 microprocessor; hard-disk drive; mouse recommended; MS-DOS 3.0 or higher.)

HOT PM PROGRAMS

If Windows running under MS-DOS represents the present, PM under IBM's OS/2 is the future—and it's starting to look bright. After IBM and Microsoft's joint announcement, WordPerfect Corporation and Lotus Development got together to tell the press about their dual efforts in creating PM versions of their hugely popular programs: WordPerfect for PM and Lotus 1-2-3/G (for graphical).

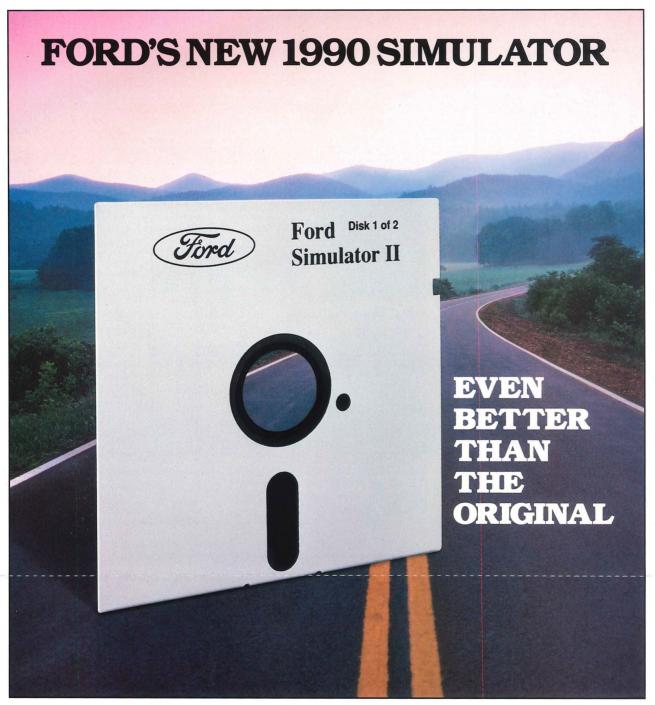
From the user's point of view, the main benefit that can come from this corporate unity is software that's easier to operate. Lotus is sharing the software code it developed for 1-2-3/G's user interface with WordPerfect. By looking and operating alike, both word-processor and spreadsheet manipulation become more intuitive. In addition, the developers of the common interface have tried to incorporate all the old keyboard commands along with the new mouse-based menus and dialog boxes. That way, the people who already use one or both of the programs can maintain what the publishers call knowledge investments.

Besides ease of use, 1-2-3/G's Solver feature impressed me most. Solver reverses a spreadsheet's typical what-if capabilities to speed up work greatly. Here's what I mean: Say you want a retirement income of \$150,000 annually. In a customary spreadsheet, you would enter and reenter various figures into the worksheet's categories (Keogh, IRAs, interest rates, and so on) until your bottom line reads \$150,000. With Solver, however, you can start with \$150,000 as your total and let the program, based on parameters you've set, fill in what would have been your what-if figures above the line. Fast and genuinely useful, Solver is the greatest advance in spreadsheet technology I've seen in years.

Promised in 1990, the *Presentation Manager* duo of 1-2-3/G and *WordPerfect* form an excellent alternative to Microsoft's combo of *Excel for PM* (already shipping) and *Word for PM* (coming soon). —D.H

Volume 1, Number 2

AUTOMOTIVE TODAY





New graphics, new games, more information, all for just \$6.95

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For IBM[®] and Macintosh[®]

Ford's New Simulator It mixes business with pleasure.

Terrific graphics show off the cars...and show how they work.

Ford Motor Company has come up with a great way to show you its cars and trucks. The 1990 version

of the Ford Simulator II is a major improvement over the popular original model. In fact, there's so much data, so many simulation games, and such detailed graphics, this year's

model needs two floppy disks to hold it all (the 3½"disk version for IBM and Macintosh is a single disk).

The new graphics are right out of a showroom brochure, and depict the cars in all their glory. Animated screens demonstrate various features of the cars. For

example, you'll see heated windshields melt snow, air bags inflate, and supercharged engines propel automobiles down highways.

Exciting games put you in the driver's seat!

Don't get us wrong; this software isn't only information. This year, there are three exciting driving

simulation games, each with three levels of driving expertise.

Test Track offers a drag strip; a track inundated with tight turns; and an obstacle course littered

with pylons. City Challenge lets you wind your way through traffic en route to your choice of a downtown area, a shopping mall or the airport. And Back Roads puts you on an easy-going byway, a twisting

blacktop, or a twolane road that requires you to maneuver around slow-moving trucks. Depending on which computer you have, you can play the

games with a

mouse or a keyboard.

An easy way to get the facts about our vehicles.

For 1990, the Ford Simulator menu contains almost every

model produced by Ford Motor Company, from the Ford Festiva to the Lincoln Continental. For each, you'll see the manufacturer's sug-



gested retail prices, passenger and cargo capacities, available models, engines and transmissions, estimated fuel economies and more.

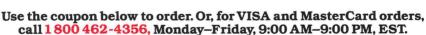
A friendly spreadsheet helps you figure out the cost of your dream car.

Once you select the right car or truck for you, the "Buyer's Guide" lets you add options. When you're done, you can view

financing and leasing options, and even compute monthly payments.

In short, the 1990 Ford Simulator II lets you do just about everything but drive out of the showroom. And it costs just \$6.95; at this price, the Ford Simulator may just be the best buy in the auto industry!

The Ford Simulator II requires an IBM or compatible PC (with at least 512K and color graphics), or a Macintosh 512K, Plus or SE (800K).



Get the 1990 Ford Simulator II. Just \$6.95



Mail to: The Ford Simulator 14310 Hamilton Avenue Highland Park, MI 48203	Name		· · · · · · · · · · · · · · · · · · ·
Enclosed is my check or money order (made payable to The Ford Simulator) for	Address City	State	Zip
\$ForFord Simulator(s). Bill my \(\text{VISA} \) MasterCard Card No:	We would appreciate it if you would provide the following information: 1. Please indicate what vehicle you are currently driving:		
Exp. Date:	Year 2. When do y vehicle?	Make ou plan to get you	Model ur next new
Signature: My computer is □ Macintosh □ IBM or compatible		onths □4-6 month □No plans v	ns □7-12 months within 2 years
My disk drive size is $\Box 514''$ $\Box 312''$ Please allow 3-4 weeks for delivery. No foreign or \Box	□ Pay cash lers accepted.	□Finance	□Lease

How to Play the Bidding Game

BY JOANNE PRATT



Have you ever realized how dependent your business is on your ability to speak? Whether you are telemarketing or giving a formal presentation, being a good public speak-

er is a big plus. Well, that's easy to say, but getting up the courage to improve your speaking skills is another matter. I recently took a course with a professional group—other venues are community colleges, adult learning centers, and toastmasters' groups (see "How to Speak in Public with Confidence and Style" in this issue).

Although standing up before a group was excruciating at first, the self-confidence I gained was well worth the anxiety. So hold your breath and enroll in a class—you'll be glad you did!

Q. I need help getting new clients for my desktop-publishing business. I'm specifically interested in finding out about the bidding process for the city of New York, and for large and small corporations. I know that some city agencies don't have in-house graphics departments. The same is true for corporations. But how do I get through?

PHILIP DESIERE New York, New York

A. Most government contracts are filled through a bidding process. To receive notices of bid requests, you must register your business with the city. It may take a few phone calls to get to the right office—first ask if the city has a small-business liaison officer. At the same time, inquire with your local Small Business Administration office about procurement workshops. Although these are frequently geared to minority and female entrepreneurs, don't let that deter you from attending. You'll learn the details of doing business with big businesses, and you'll usually meet procurement officers from local, state, and federal agencies. Meanwhile, you might send for Doing Business with the Federal Government (\$2.75: Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9325; [202] 783-3238).

It is common for large corporations to commission work from small businesses. Persistent networking and asking for referrals are the best ways to obtain such jobs. Also, try contacting your former employers. Q. I have been selling computer supplies out of my home for more than one year. United Parcel Service comes daily, and occasionally a trucking company will drop off products, but most of my orders are shipped directly from the supplier to the customer. Recently my neighbors have complained about my business (because of a personal matter) to the Department of Building and Safety. An enforcement officer came to my door and said he was checking to see if a business was in fact being run from here. Is this legal? Can he come into my house like this?

I was under the impression that you could run a mail-order business out of your home. I have a valid reseller's permit, and as far as I am concerned, I have done nothing wrong.

STACY LILIEN ALWAYS BI RITE North Hollywood, California

A. Unfortunately, yours is just the situation I referred to in my January column: Your zoning code was not enforced until your neighbors took their sweet revenge for a personal grievance. Los Angeles has a remarkably stringent municipal code that bans almost any home business, including mail order-your operation is illegal. According to an official in the City Clerk's office, home businesses are undesirable because they generate neighborhood traffic. The city will sell you a business tax certificate, then turn your name over to the Department of Building and Safety to put you out of business. Violators can be subject to a \$1,000 fine and six months in jail or both. On the other hand, if, in Los Angeles, you are employed by another company, working in a home office is legal.

EDITOR'S NOTE: Ms. Lilien has since moved outside of the Los Angeles city limits and is now operating her mail-order business legally.

Q. My wife and I would like to renovate the inside of our home without the services of an architect or interior designer, since this would only add to the cost. We thought a practical alternative would be some kind of computer program that would enable us to move walls on the monitor before doing so in the house. Do you have any suggestions?

DONALD THIBODEAUX St. Martinville, Louisiana

A. Floorplan (\$49; ComputerEasy International, 414 E. Southern, Tempe, AZ 85282; [602] 829-9614) may be just the product for you. With an IBM compatible and keyboard or mouse, you can draw, rotate, and magnify objects and calculate square footages. For an abundance of ideas on how to include a home office in your plans, invest in Home Offices and Workspaces (\$7; Sunset Books, 1986, 80 Willow Rd., Menlo Park, CA 94025; [415] 321-3600).

On behalf of my husband, I should point out that architects sometimes save their clients money.

Q. I am a painting contractor, and I finally realized that I need to incorporate a computer into my business; I'm going to use my son's PC clone. Is there any IBM-compatible shareware that I could use to prepare bids and keep financial records? Can I use any of the software I already own, such as Publish-It Lite!, PFS: First Choice, and SideKick?

WILLIAM LEVIN Fort Myers, Florida

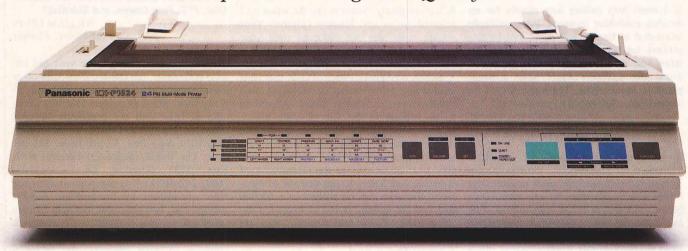
A. Certainly, you can prepare your bid letters, statements, advertising fliers, and other correspondence with the software you already own. Many shareware titles are available to help with the arithmetic of your business. The October 1989 PSL News Catalog (first copy free, \$2 per issue, \$18 per year; The Public (Software) Library, P.O. Box 35705, Houston, TX 77235-5705; [800] 242-4PSL) lists the popular PC-Calc Plus spreadsheet by ButtonWare; Bid-Biz and PC-Bid, two programs that help prepare price quotes; and a number of checkbook and accounting programs. Select the best software for your business after taking a look at the review disks (\$15; three disks at \$5 a piece).

SEND US YOUR HOME-OFFICE QUESTIONS

Send your question on taxes, legal issues, developing a business plan, capitalizing, marketing and public relations, or any other business-related issues—and we'll pay you \$25 if it is published in ShopTalk. Address letters to Joanne H. Pratt, c/o ShopTalk, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003. Name, address, and telephone number must be included on all correspondence. Pratt is a nationally known researcher, consultant, and speaker on the subject of home business.

At Panasonic, award-winning performance is a family tradition.

Our 24-pin Wide Carriage Letter Quality Printer.



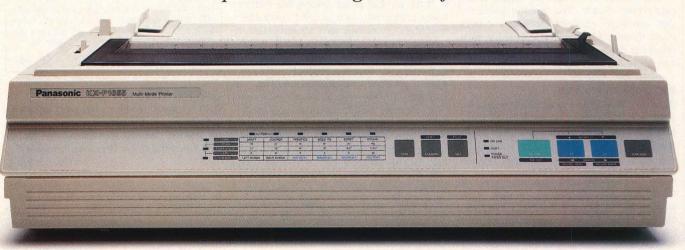
<u>PC Magazine. PC Week. Reseller Management.</u> Each has given some of their top awards to various models within the Panasonic* 1100 series and 1500 series of dot matrix printers. And the very same features found in these award-winning models, you'll also find in our new KX-P1624 and KX-P1695 wide carriage printers.

Features like...superior paper handling, with four paper paths, auto-loading and paper parking. Like...an easy-to-use operator panel that controls everything from the many built-in fonts to formatting features to micro line-feed to macros. Like...a full 2-year limited warranty on parts and labor. And, just like all our printers, they both offer exceptional performance at an affordable price.

The KX-P1624. For those driven by perfection. Finally, true letter quality and enhanced capability in an affordable, wide-carriage printer. Our newest 24-pin offers 7 resident fonts, produces presentation-quality text and graphics and, in letter-quality mode, is actually faster than many 9-pin printers are in near letter quality. You can tell it's a Panasonic.

Meet the newest twins.

Our 9-pin Wide Carriage Fast Draft Printer.



<u>The KX-P1695. For those driven by a deadline</u>. Who says a fast-draft 9-pin has to be a stripped down, churn-it-out brute? Sure, our new fast-draft wide-carriage clips along at up to 330 characters per second. But it's also loaded with features. Including 8 resident fonts, in ten different sizes, graphics capability and a near letter quality mode that leaves many 9-pins in the dust.

A wide choice. But not a tough one. Simply look at the family that's been getting so much attention of late. See your Panasonic dealer, or call toll-free 1-800-742-8086 for more information.

Panasonic award-winning performances:









Printers, Computers, Peripherals, Copiers, Typewriters and Facsimiles.



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CIRCLE READER SERVICE 53

Answers to Readers' Questions

BY STEVEN C. M. CHEN AND KAREN KANE

CLEAN YOUR EQUIPMENT WITHOUT DESTROYING THE OZONE

Q. I find that using compressed air is an efficient way to clean my computer and keyboard. Are there any compressed-air canisters that do not contain ozone-destroying freon?

STEVEN L. COHEN

Virginia Beach, Virginia

A. Yes, we know of three freon-free compressed-air products now available and expect to see more on the shelves soon. Dust-Off Plus, from Falcon Safety Products ([201] 707-4900), costs \$37; PerfectDuster II, from PerfectData Corporation ([805] 581-4000), retails for \$9; and CleanDuster, from Discwasher ([805] 678-9610), sells for \$20. If you can't find these products in your local store, call Lyben Computer Systems at (313) 589-3440. These products cost about 10 to 15 percent more than freon-based compressed-air cans, but that's a small price to pay to help save the environment.

Compressed air is also an effective impact-printer cleaner. You should remove the dust and paper particles from your printer every three or four months to guard against printhead damage. A replacement printhead can easily exceed \$100.

TOO GOOD TO BE TRUE

Q. I saw a WorkSlate computer advertised for \$200 in a catalog but have never heard of the brand before. Is this price too good to be true?

DOROTHY RICHARDS

Madras, Oregon

A. We don't recommend this product. It is a discontinued model with out-of-date technology. No software or hardware peripherals on the market today are compatible with the WorkSlate.

There are many bargains in catalogs, but be wary of two major traps: discontinued

\$ WE'LL PAY FOR YOUR PROBLEMS \$

If you have technical questions or computer ailments that need diagnosis, our technical staff will try to help you out—and we'll pay you \$25 if we publish your letter in Clinic. Although we cannot answer each letter personally, this column will deal with frequently asked questions and common problems. We reserve the right to edit the letters for clarity and length. Please include your name, address, and phone number with all correspondence. Send your letters to Clinic, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003.

products and out-of-business companies. Substantial discounts are often available on last year's discontinued models to make room for new models. Last year's models are fine if they have the features that you need, but be aware that the company may be less enthusiastic about supporting old products. And never buy an electronic product made by an out-of-business company.

Here are some tips to help you make smart catalog purchases:

- If the price seems too good to be true, it probably is.
- If you don't recognize the brand name, get at least one positive recommendation from someone who does.
- An ad may claim that the warranty is guaranteed by the manufacturer, but that doesn't mean much if the company has gone out of business.
- If you are buying a computer, make sure that compatible software and hardware are readily available.
- If the product is not compatible with existing computers (such as IBM compatibles and Macs), you will have fewer places to turn for support. Users' groups, friends, and stores may not be able to help you if they aren't familiar with the product.
- Find out what's included in the offer; you may have to buy several more components (for example, monitor, disk drives, memory) before you can use it.
- Before you place an order, call the manufacturer with questions. If you aren't satisfied with the support before you buy, you probably won't be happy with it afterward.
- Pay for mail-order merchandise with a credit card—never with cash or check. If something happens, you'll have some recourse.

CALCULATE YOUR KWH

Q. How much does computer use affect electric bills? Is there an easy way to estimate added costs for tax purposes?

EDWARD A. HOPKE
Miami, Florida

A. It's difficult to calculate the exact power requirement (or load) of your equipment without a special measuring device. However, you can get a close estimate. Generally, the more peripherals you have and the more powerful the system, the higher the load. An average AT compatible with 1MB of RAM, one 40MB hard-disk drive, one floppy-disk drive, and a VGA monitor requires about 220 watts. Assuming your system is turned on for 100 hours each month,

the total electrical usage is 22 kilowatt hours (see box for calculations). If the rate per kilowatt hour is 10 cents in your area, your computer usage will cost you \$2.20 per month.

How do I calculate KWH?

Your electric bill is calculated by the number of kilowatt hours (kWh) you consume. The cost per kWh varies from city to city, so check your bill for the rate you pay.

Total electrical load (in watts) × Amount of Time × Conversion factor = Total kWh

Total $kWh \times Cost per kWh = Total cost per month$

Example:

220 watts×100 hours× $\frac{1 \text{ kWh}}{1000 \text{ watts}}$ =22 kWh

 $22 \text{ kWh} \times \$0.10/\text{kWh} = \2.20

How do I calculate the power requirement?

Every electrical device must list its power requirements, but the information given may vary. In most cases you are given a number for volts and amps. For example, you might see AC 120V, 1.0A stamped on the back of a color monitor. To calculate watts, just multiply the volts by the amps to get VA or watts.

 $120 \text{ volts} \times 1.0 \text{ amp} = 120 \text{ VA or } 120 \text{ watts}$

GHOST BUSTERS

Q. I've heard of monitor savers that automatically blank out the screen if there has been no activity. Can you recommend one for my NEC PowerMate? Are they even necessary?

ANTHONY PAUL Niagara Falls, New York

A. Monitor savers help prevent the burn-in effect that can happen when you leave the same image on your screen for a long time. Burn-in creates permanent ghosts of images on your screen—it's like viewing your screen through a veil.

Right now, Zenith is the only monitor manufacturer we know of that includes an anti-burn-in utility with its VGA cards. However, there is another solution. VGA Dimmer, from Revolution Software, is a memory-resident package that requires only 1.5K to fight burn-in and works with all of the display standards: VGA, MCGA, EGA, CGA, MDA, and Hercules. VGA Dimmer has a suggested retail price of \$30 but is available from PC Connection ([800] 243-8088) for \$19 plus shipping.

A word of advice: Turn off that monitor if you're not going to use it for awhile! This will extend your monitor's life and lower your electric bill.

20 HOME-OFFICE COMPUTING

Star's multi-font printers give you more than just a lot of attractive faces.



All the dazzling and distinctive typefaces built into Star's multi-font printers are just part of the beauty of our 12 models. Because Star lets you choose from more built-ins that can build up your image. Like bi-directional graphics for creating charts quickly, clearly. High-speed printing. And all the paper handling flexibility you need, including a bottom feed. We've even built

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er 8 II XR-1000
CIRCLE READER SERVICE 60

NX-2410

XB-2410

Stop Waiting for Files to Print Out Macintosh Hard-Disk—Drive Alert Powerful Apple II Database

IBM/MS-DOS

BY HENRY F. BEECHHOLD & STEVE MORGENSTERN

From screen to printer with pizzazz. If you put together presentations or need to capture and print out screen images, you'll appreciate the special capabilities of *Pizazz Plus* from Application Techniques. For \$149 you'll get much more than just a RAM-resident screen-snapshot program: *Pizazz Plus* will capture any screen image and transfer it to your desktop-publishing software. It will work with almost any printer (including all HP LaserJet compatibles).

Say I've created an elaborate chart with my spreadsheet that I'd like to insert into a document or a new sletter. Say that, further, I want to fine-tune the shadings, size, and other characteristics of my chart. No problem. With *Pizazz Plus*, I can crop, rotate, and smooth any ragged edges on my image, as well as modify its colors, shadings, sizes, and proportions. With a VGA monitor, I have a choice of 256,000 colors or shades of gray and can print as many shades as my printer supports.

It's well worth the price.

Sophisticated spooling. One of the easiest ways to waste time is waiting for files to print out. Unless you've got a super-duper multitasking system (an expensive prospect), you lose the use of your computer while you print. The cure? A software-based print spooler, of course.

A spooler's job is to act as an intermediary between the print command of any program and the printer itself, storing the data in a holding tank (either memory or disk or both) and spooling (dribbling it out) to the printer at whatever rate the printer can handle it. The idea is to let you get back to the keyboard pronto, instead of having to cool your heels while the printer clunks along printing the file. For my money, PrintQ (Version 4.0, Software Directions; \$149) is the best spooler around.

A RAM-resident program, *PrintQ* is packed with clever features, but the one I appreciate most lets me redirect output to a different port, which saves me from having to reinstall all of my software if I change printer ports or add another output device, such as a plotter. All I do (through a point-



Pizazz Plus lets you capture and edit your screen images for presentations or desktop publishing.

and-shoot menu) is tell *PrintQ* to accept data from one port and send it to the other. I can set the *PrintQ* redirection as a default or override it for a particular printing session. It works flawlessly.

Check this program out; it's a honey—easy to install, easy to use, reliable.

Fancy type styles. If you do desktop publishing or other work that requires elegant printed output, check out *LePrint* (LeBaugh Software Corporation; \$195 with 5 type styles; \$495 with 28 type styles). This program gives you a complete page-design system and a large collection of scalable and enhanceable typefaces. What's especially nice about *LePrint* is that it will run on a 384K computer. It doesn't even require a laser printer—although it supports several. The program will automatically take advantage of any expanded memory.

Basically, *LePrint* is a text formatter with its own typefaces. It will work with any ASCII word processor. And while the program does not display on-screen what it will print on paper (in the manner of, say, *Ventura*), there is a page-preview feature that lets me see what my pages will actually look

like—right down to the specific typefaces and other visual elements. I can mix any number of typefaces in my work and scale fonts from 4 points to 10 inches. The program gives me solid type that is outlined, slanted (both left and right), expanded, or compressed. It also offers rotated type, kerning, spacing, and more.

To lay out a page, I have to embed the actual formatting commands in the text. For anyone used to a graphics system for page design, this at first seems tedious and cumbersome. I found, however, that I can insert, scale, and enhance typefaces with far greater ease and efficiency than with a WYSIWYG program—no endless menu pulling and mouse pointing.

Laser printouts are superb; impact-dot-matrix printouts vary with the quality of the printer. No matter what you're printing on, however, you'll be delighted with how much *LePrint* will manage to wring out of your printer (almost all popular makes and models are supported). This first-rate program can save you the cost of additional printer memory and of cartridge or soft fonts. Big plus: If you don't like it, you can return *LePrint* within 30 days of purchase for a full refund.

—H.B.

Sharp drawings for sharp business owners.

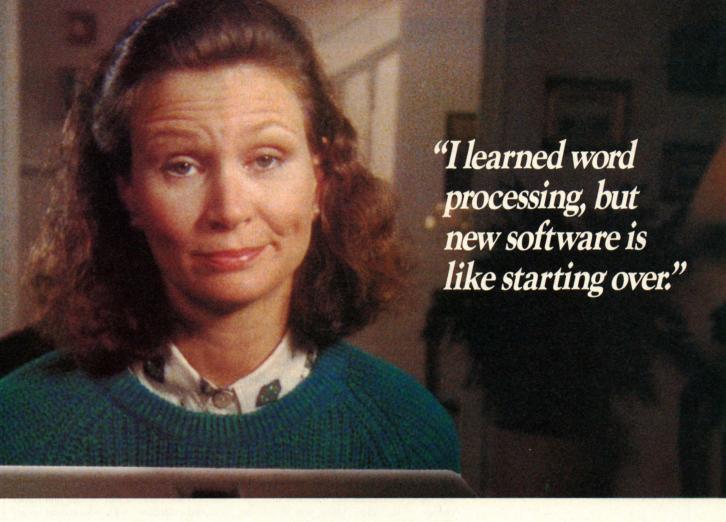
Version 1.1 of *Corel Draw* (Corel Systems Corporation; \$595), the Microsoft *Windows*–based illustration program, just arrived on my desk. Release 1.0 was already high on my list as a top software introduction of 1989. The new release is even better in several significant ways.

Corel Draw is a vector-based graphics package. That means that instead of creating and editing an illustration dot by dot (the technique used in bit-mapped graphics programs), you work with lines, shapes, and filled areas. A major advantage of vector-based illustration programs is on the output side. The image you create will be printed at the highest resolution your output device supports, whether it's a dot-matrix printer, a 300-dot-per-inch laser printer, or a 2,540-dot-per-inch professional imagesetter.

When editing a vector-based illustration, you reshape the lines and curves, which is often faster and more fluid than editing individual dots. This is particularly useful when it comes to creating graphics for logos, ad-

MANUFACTURERS MENTIONED

Apple Computer, (408) 996-1010
Application Techniques, (508) 433-8464
Corel Systems, (613)728-8200
Help Software, (408) 257-3815
LeBaugh Software Corp., (402) 334-4820
Letraset USA, (201) 845-6100
Software Directions, (201) 584-8466
Stone Edge Technologies, (215) 641-1825



Discover the DeskMate[™] Difference... the Friendly Face in the PC crowd.

If you've shied away from PCs because you thought they were too intimidating, now there's good news!

Say hello to DeskMate, the Graphical User Interface that replaces confusing commands with simple, plain English. Leading software publishers are adopting DeskMate to give their programs a friendly look and feel. The proven DeskMate format guides you through each program with simple "point-and-click" convenience.

Your key to "software ease." Popular programs with the DeskMate Interface include the new Lotus Spreadsheet for DeskMate, Q&A Write, PFS:First Publisher and Quicken. Use one, and you've essentially learned how to use them all.

Take the Tandy "power-and run test." DeskMate works with any PC compatible. But since the most popular Tandy PCs have DeskMate built in, you can be up and running in just a few seconds!

Discover the DeskMate Difference for yourself . . . now at Radio Shack, GRiD and participating dealers.

You'll be greeted by the friendly face of DeskMate, complete with a neat, organized listing of all of your programs. There's simply no comparison in ease of use.

Special offer! Come in for a free DeskMate demonstration, and we'll give you a certificate for 15% off any DeskMate software!





MACHINE SPECIFICS

vertising typography, and fancy headlines.

Corel Draw comes with a tremendous assortment of type styles to choose from—102 in all, from 35 type families. And if that's not enough raw material, the new version includes a utility program that translates fonts from a number of third-party vendors into the Corel Draw format. The most significant of these is the popular Adobe type library. Until now, no company has been able to provide the ability to freely manipulate the shapes of Adobe typefaces—quite a technological breakthrough.

The new version of *Corel Draw* supports the *Windows* clipboard for cut-and-paste operations with other *Windows*-based programs. It imports and exports in most major graphics formats, including SCODL for output to Matrix and Genigraphics professional slide-making services. And, unlike *Adobe Illustrator PC*, its highly publicized competitor, *Corel Draw* runs at a perfectly acceptable speed—even on an AT.

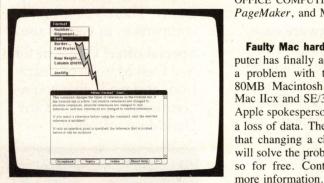
-S.M.

HENRY F. BEECHHOLD is the author of The Brady Guide to Microcomputer Troubleshooting & Maintenance (Brady Books, Prentice Hall Press, New York).

STEVE MORGENSTERN can be reached on CompuServe (ID: 72545,606) or on MCI Mail (SMORGENSTERN).

MACINTOSH

BY JIRI WEISS, JR. & CHARLES H. GAJEWAY



You can get quick assistance from Desktop Help for Excel without having to leave your work or refer to a hard-copy manual.

Professional-quality graphics program. If you need good-looking graphics in your work, take heed: Letraset USA has designed two new integrated products just for you. *Color-Studio*, a 32-bit color-image creation and manipulation program (\$1,995) and *Design-Studio*, which functions similarly to *Page-Maker*, for page design (\$795).

ColorStudio gives you masks (layers that

let you isolate areas of an image to edit separately) and stencils. Masks can have up to 256 shades of gray—from transparent to opaque. These levels can come in handy for special effects, such as making one picture fade into another. There are also tools for rotating or stretching an image, as well as for sharpening or softening its edges. You can control color correction and density.

The interface of *DesignStudio* will be familiar to users of Letraset's *Ready Set Go!*, but instead of page layout, it gives you a pasteboard where your page is in the center and you can paste graphics around the text. It provides fine typographical control and features, such as the ability to rotate text and graphics to any degree and work with multiple dictionaries at the same time.

To use the products to their full potential, you'll need 2MB (for *DesignStudio*) to 8MB (for *ColorStudio*) of memory and a high-resolution color screen.

On-screen help for your Mac applications. Help Software has begun to market an interesting product: a series of software-based help packages for Macintosh applications. The first of the help packages is for Microsoft Excel v1.1 and v2.2. Complete with explanations and tutorials, Desktop Help for Excel is the equivalent of a 450-page reference manual. It covers over 130 topics and 240 menu commands and has more than 500 entries in its index. Once you install the 800K program on your disk, you use it just like any other desk accessory. The \$80 product will be followed by help software for Microsoft Word 4.0 (which should be available soon after this issue of HOME-OFFICE COMPUTING hits the newsstands), PageMaker, and Microsoft Works. —J.W.

Faulty Mac hard-disk drives. Apple Computer has finally acknowledged that there is a problem with the Quantum 40MB and 80MB Macintosh hard-disk drives in the Mac IIcx and SE/30. In most cases, says an Apple spokesperson, there is no need to fear a loss of data. The company has announced that changing a chip in the controller card will solve the problem, and that they will do so for free. Contact Apple Computer for

-C.G

JIRI WEISS, JR., is a freelance writer based in Berkeley, California, and can be reached on MCI Mail (JWEISS).

APPLEII

BY CHARLES H. GAJEWAY

Masterful database. Are you ready for a sweeping statement? Here goes: I think that



DB Master Professional has what the Apple II user wants in a relational database—power, flexibility, and feature richness.

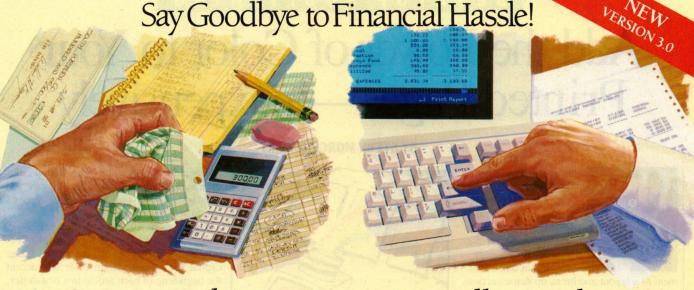
DB Master Professional (Stone Edge Technologies; \$295) is the single most important business-oriented product for the Apple II since the introduction of AppleWorks. As the only true relational database program for the Apple IIe, IIc, and IIGS, DBMP can give a 128K Apple II the kind of datahandling power and flexibility normally associated with MS-DOS and Macintosh systems running expensive and hard-to-learn software. (A relational database can link, or relate, information from several data files.)

I jumped right into the program with my standard test data—a pair of files that tracks a record collection, with information on album titles, artists, music category, song lengths, and composers. This test is complex, and many well-regarded programs—including *AppleWorks*—have failed miserably at it. Even with very little experience, I was able to get the system up and running with *DBMP* in a surprisingly short time.

Report generation is extremely powerful, making it easy to design anything from a mailing label, to a point-of-sale invoice (that automatically updates inventory records, of course), to customized form letters. Whereas most database programs must be combined with a word processor to do complex reports or mail merge, *DBMP* does it all.

The manuals are complete, well illustrated, and generally clear, although they are sometimes overly technical and fragmented. You will need to keep both books handy at all times, especially as you try out some of the more sophisticated features. And while the program is operated with a simple menu system, *DBMP* takes a fair amount of time to learn because of its array of features and options. *DBMP* gives you all the power you need and can even import your current files from *AppleWorks* (except version 3.0) and other programs.

CHARLES H. GAJEWAY can be reached on CompuServe (ID: 73357,3577) or on GEnie (ID: C GAJEWAY).



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Quicken is the best selling business and personal financial software in the world. Bill Howard of PC Magazine (December 27, 1988)

says, "Quicken is about as good as software getspowerful, affordable and easy to use" Broadway playwright ("Mame") Robert

E. Lee remarks, "This astonishingly simple program... is truly true to its name.

routine bookkeeping."

No Computerese or Accounting Mumbo Jumbo

Quicken is so easy, you're up and running in minutes. That's because the whole program looks and works just like the paper checkbook and register you've always used. Quicken doesn't change how you do your finances, only how fast you finish them.

Powerful Business Features

Over half of Quicken's customers use it for small business bookkeeping. Quicken produces financial statements such as Profit and Loss, Balance Sheets and other useful management reports. It forecasts your cash flow, and tracks A/R, A/P, payroll, jobs, clients, properties, and more.

SPECIFICATIONS

Software Compatibility: Imports from Check-Free and ASCII. Exports to ASCII, Lotus* 1-2-3, Symphony, Quattro, Excel.

Hardware Compatibility: All IBM® PC, XT, AT® PS/2, and compatibles with 320K RAM and DOS 2.0 or higher. Works with your printer and monitor; we guarantee it. Capacity: Unlimited number of bank accounts and transactions (subject to available disk space). Maximum amounts to \$9,999,999.99.

antounist 0 39,399,399,999,00 Other: Unlimited FREE technical support. Not copy-protected. Checks are preapproved by all financial institu-tions in the U.S. and Canada. Sample checks and order form in Quicken package. Also available for Macintosh and Apple II (feature sets vary)

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Add the Power of Color to Your Printed Pages—Inexpensively

BY STEVE MORGENSTERN



Color on the printed page is powerful.

Our eyes are drawn to color—you can use it in your design to focus reader attention on particular areas of a page.

Color can add excite-

ment to a layout and break up dense sections with contrasting highlights.

It can be used to establish identity—think about Coca-Cola's red and white, Kodak's orange, IBM's blue, or Apple's rainbow.

Color also provides an opportunity to make your printed materials stand out from the crowd. Look at the pile of mail that arrives each day. Aren't you inclined to reach for the fliers and envelopes that catch your eye with color?

A TOUCH OF COLOR IS BETTER THAN NONE

For all its virtues, though, working with full color is an expensive process. It involves preparing color separations and running on color printing presses. In fact, sometimes that extra expense is part of the message you're trying to communicate. Would you give much credibility to a black-and-white brochure selling a \$200 collectible doll? Of course not—you want to see it in an appealing color photograph.

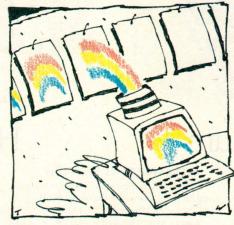
Without investing in full-color printing, though, you can enjoy many of the benefits of color in your publications. Colored paper stock or colored ink can draw attention to your piece. And adding a single color as a highlight is relatively inexpensive, practical even for small press runs, and as convenient as your local print shop.

COLORED PAPER, COLORED INK

Look at your standard printed output black ink on white paper. Then consider changing the color of either one or both. These inexpensive changes can make a real impact.

The kind of impact you make depends on the paper color you choose. I responded positively to a flier announcing the opening of a new card store in my neighborhood; it was printed on bright yellow paper and caught my eye. I would have laughed at a corporate newsletter with this color scheme.

STEVE MORGENSTERN is a colorful contributing editor for HOME-OFFICE COMPUTING.



On the other hand, I received a very elegant newsletter recently that employed both colored paper stock and colored ink to good advantage. The paper was a very light gray, the ink a dark brown—the effect was pure class all the way. And it didn't cost a fortune to produce either.

A multitude of paper colors are manufactured, but check availability with your printer—special orders can mean additional expense. And with paper, be sure to consider more than just color. Texture and weight of stock carry their own clear messages to the recipient as well.

There are even more colors of ink than paper, and some are considered standard while others are custom. Your printer probably stocks a standard red, a standard green, and so on. If you require a more precise selection, you can order a PMS color.

The Pantone Matching System, or PMS, is the industry-standard system used to specify shades of color inks. You can buy a swatch book with samples of PMS colors at your graphic-arts supply store. There are hundreds of subtly different shades from which to choose, each with a unique identification number. Note that colors reproduce differently according to the type of paper you're printing on—brighter and more vibrant on coated paper, more subdued on uncoated. When choosing a PMS color, be sure you're looking at a swatch printed on the kind of paper you'll be using.

TWO-COLOR TANGO

Even a small print shop can produce work with two colors of ink. The paper is put through the press once for the first color,

and again for the second. The second color of ink is called a spot color. It can add highlights to a layout, drawing the reader's eye to sections of the page.

There are many ways to use spot color. Color can make company logos and publication nameplates pop off the page. Large capital letters in a second color will accent the beginning of each article in a newsletter. Colored line art or graphs add an inviting visual texture to a page.

You can use a solid second color, or you can use shades of color by employing tint screens. (For more on the use of screens and other graphic devices, see last month's "Make Printed Business Materials Stand Out," on page 48.) Using the same color ink in varying percentage screens is a prime technique for making a page look more colorful without adding significant cost.

Most desktop-publishing software lets you print type or line art in screens (also called shades or tints), usually in 10 percent increments. This feature is very useful if your final output will be laser printed. If you plan to take your piece to a professional printer, software-generated screens also preview how tinted areas should look.

However, you'll get superior quality at a low cost if you ask your print shop to produce the shades using their screens (which are composed of much finer dots than the screens you can produce with laser printers). This superior resolution is especially important if you are planning to print shaded type or to run type over a shaded box—the edges of the type will be much crisper and more attractive. Even if all you want is a shaded geometric shape, the effect will reproduce more smoothly with a professional printer's screens.

TALKING TO YOUR PRINT SHOP

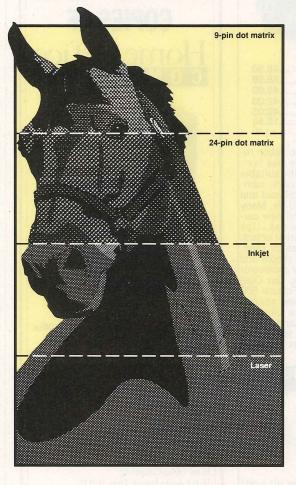
To let your professional printer know where you want color to appear, you will need a tracing paper overlay on your camera-ready mechanical. Circle the area you want printed in color on the overlay and write in the name or PMS number of the color you want; in many cases, you would tape the PMS color chip to the overlay as well. If you want a solid color text or tint block, write 100% and the color name or number. For screens, indicate both the percentage and the color, using the same 10 percent increments you use within your

A Horse is a Horse.

hether you print it with a 9pin dot matrix or a 300 dpi
laser printer, The Avagio
Publishing System produces thoroughbred output every time. Publish
your business documents, newsletters and brochures with professional
results, at a cost that will not ride
roughshod over your budget.

For \$299.95, Avagio gives you the same powerful text and graphic tools that expert designers use. Layout templates get you out of the gate fast. Conversion utilities so you can use a wider range of clip art and fonts. And document length limited only by your available disk space.

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desktop-publishing software. For your mechanical, though, output the type you want reproduced in a tint in solid black. Then, on the overlay, circle the sections you want shaded and indicate the percentage.

DIVIDE TO CONQUER THE TWO-COLOR BARRIER

If you plan to use spot color in several places on your layout, consider printing a separate camera-ready page for each color you're using. For instance, all those places (the logo and charts, for example) on a brochure to be colored red would be printed on one page, while the text, to be colored black, would be printed on a second page. In many page-layout programs, you can indicate your color choice and the program automatically prints out separate pages. If yours doesn't, you can achieve the same effect by making additional copies of the pages in question. Delete items until you have one page for each color.

Whichever technique you choose for preseparating colors, you will need registration marks on each camera-ready page to indicate precise alignment for the printer. Registration marks are small cross hairs or other shapes used by the print shop to align two or more pages that have been separated in this way. Also remember to label each page with the name or number of the color you want.

Watch out for designs requiring pinpoint precision in registration. If two different colors touch, the commercial printer must position the printing plates with extraordinary care to avoid overlaps or unsightly gaps. Most commercial printers can handle this, but you may have to pay extra to achieve the required level of precision.

SO. STEVE. HOW INEXPENSIVE IS COLOR?

The bottom line this month is quite literally the bottom line—I asked my local printer to give me costs on a specific job with and without additional color.

The piece I described is an 8.5-by-11-inch single-sheet flier printed on both sides. In straight black and white, the printing quote for 1,000 copies was \$65. For colored paper instead of white, the charge was an additional 30 cents per 100 sheets—just \$3 more.

Colored ink? There were two possibilities—\$10 or free. If someone else's job was running in the color ink I wanted, then there would be no additional charge to run my job in that same color. If I wanted my own color choice on my own schedule, there was a \$10 fee to clean the presses—the colored ink itself was no more expensive than black.

Finally, what about running an additional spot color? That would add \$20 to my printing costs.

Based on that cost structure, you can spice up a publication with color and still come away with a very reasonable tab.



JUST SEVEN OF THE BRILLIANT FEATURES **I OUR NEW 300 CPS PRIN**

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And with that, you can begin to imagine all the clever, problemsolving features that make our hard-working HSP simply the most advanced printer of its kind. Ever.

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Say one day things get so busy that

you need

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job's paper out of the way, insert your letterhead or form, and go.

When you're done, another touch moves the continuous paper back and you pick up right positions for tear off. where you left off.

The HSP is also faster and easier when it comes to loading paper, letterhead, or forms. In fact, whatever paper you choose. Thanks to a push-pull tractor with rear and bottom feeds.

WHY FASTER IS BETTER.

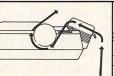
Not to gloat, but our throughput is among the top 10% in the business. With print quality that's the envy of even 24-wire printers.

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be especially important when there are several jobs vying for keyboard time.

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Perhaps best of all, we intend to keep its smart functions functioning. So the HSP comes with a 24-month warranty.



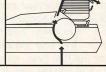
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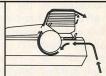
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Yet these are only a handful of the two hundred-plus improvements the HSP has over its predecessors. All designed with a long and productive future in mind.

For the Citizen Printer Dealer nearest you, call 1-800-556-1234, Ext. 34. In California, call

1-800-441-2345, Ext. 34. The new Citizen HSP Series. It's a workhorse of a different color.

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Building a Better Business Plan

BY CHARLES H. GAJEWAY

Define Your Goals With a Template For Mac and MS-DOS Computers

As you know, a business plan is a detailed statement of your intentions and expectations regarding a specific activity.

The activity could be running a part-time operation from your home, writing up a new product proposal, devising a manufacturing budget, or looking for financing for a new business. Your intentions are the actions you anticipate taking to promote and manage your business, and the expectations are your financial and operating goals.

DEFINING YOUR BUSINESS

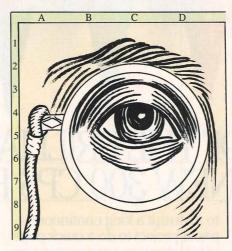
A good business plan is based on a clear definition of the product or service involved. You must also detail potential markets and your competition. Then specify realistic financial and operating goals, generally for a three- to five-year period, with monthly detail for the first year, quarterly for the second, and annual for the remainder. Support these goals with well-defined actions and a timetable for accomplishing them. A complete plan also addresses possible adverse circumstances and what actions can be taken to minimize their impact.

Every business should be run from a plan. You will definitely need a plan to support any kind of financing request, from a government grant to a bank loan to a stock offering. But all businesses, at any point, benefit from the extra awareness and control that the planning process promotes.

Drawing up a business plan can be forbidding—it's full of complex math and pages of dense technical text. You know your computer could help, but you can't find a way to get started. You may even be tempted to do without a business plan—never the best idea—or to hire someone to develop a plan for you.

Take heart; there's another option. Tim Berry, an experienced professional business planner, has developed a tool to get even a novice planner off to a solid start.

Contributing editor CHARLES H. GAJEWAY works with a spreadsheet even more than with a word processor.



Business Plan Toolkit

VERSION REVIEWED: 3.0

SYSTEM REQUIREMENTS: 512Ke Macintosh* with Excel, Works, or SYLK-compatible spreadsheet. 256K IBM PC, PS/2, with Lotus 1-2-3 or compatible spreadsheet

PUBLISHER: Palo Alto Software, 260 Sheridan Ave., Palo Alto, CA 94306; (415) 325-3190, (800) 336-5544

PRICE: \$100

OVERALL PERFORMANCE: \star \star \star DOCUMENTATION: \star \star \star ERROR HANDLING: \star \star \star EASE OF USE: \star \star SUPPORT: \star \star \star

GUIDING YOU THROUGH

Business Plan Toolkit (BPT for short) is not a stand-alone program but a set of spreadsheet templates: predefined worksheets, charts, and macros specifically designed to help you prepare a business plan. The Macintosh version that I tested included templates in both Excel and SYLK formats, a HyperCard guide to writing the final plan, and a sample business plan. The publisher also offers an MS-DOS version for Lotus 1-2-3 and its many compatible programs.

BPT provides a nicely done set of Excel templates. For example, Excel lets you pass data between spreadsheets with linking formulas that add a document's name to the usual cell coordinates in a formula. I like the way the author has used this feature to create subsidiary worksheets and feed summary results into the main plan. Breaking planning down into smaller, less intimidat-

ing steps makes it easier and faster to work through the procedure.

HOW EASY IS IT?

The main problem with any business-finance template is that you must have some software sophistication to customize it, yet it appeals primarily to the less advanced user. This quandary is even more pronounced with templates for a spreadsheet as rich and complex as *Excel*.

BPT is no exception; the author states that his basic modules should be modified to reflect your business. While the manual offers some tips and suggestions on refining the basic modules, you may need some help customizing the templates and macros. Get a spreadsheet expert to help you; the results will be worth the effort. It's also smart to review your plan (any plan, not just one prepared with BPT) with your accountant and lawyer.

The *BPT* manual offers one of the clearest and most down-to-earth approaches to business planning I have come across. Berry emphasizes a three-step approach: 1. high-quality planning based on market and competitive research; 2. setting specific goals; and 3. detailing the tasks, responsibilities, and deadlines for realizing those goals.

If a plan is to work, it must be complete and both easy to read and understand. Overly complex plans waste valuable time on all three counts. The manual makes a good case for limiting preparation time and producing concise presentations using the communications power of charts and summary tables instead of detailed prose.

TO BUY OR NOT TO BUY?

Still, BPT's performance rating falls one notch short of four stars because it doesn't offer examples and guidance on customizing the spreadsheets to individual business needs. But with the excellent documentation on business planning and the useful support (my casual call brought me to the author), most business people will be up and running quickly enough.

At a list price of \$100, BPT would be overpriced for just a template. But the package is much more—the thought and effort that have gone into the manual transform BPT into a self-paced business-planning seminar. Taken on that basis, BPT is an excellent value. While its primary appeal is to someone starting up a small business, BPT is a valuable tool for anyone building business-planning skills.

DO THESE FINANCIAL QUESTIONS CONCERN YOU OR YOUR BUSINESS?

- "How much interest will I be paying on my loan this year?"
- "What would my loan amortization schedule look like?"
- "Does it make sense for me to refinance my house or take out a second mortgage?"
- "How can I quickly and easily compute financial scenarios for my clients?"



"What must I do now so I can pay for my child's college education and retire securely at age 55?"

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Software Shortcuts for Buying the Right Mutual Fund or Company Stock

BY NICK MAFFEI

Mutual funds are one of the surer and safer ways to invest your money. But with more than 3,000 funds available today, shopping for a mutual fund can be as time-consuming and exasperating as buying a new car—the options are so numerous, it pays to know what you want before you buy.

Until recently, choosing the right fund meant a lengthy, manual search through dozens of "hot lists" and performance reviews. Not any more.

Now Forbes and Business Week magazines have introduced computer-based screening programs that use sophisticated technology to help you select the best mutual fund. In addition, Fortune magazine (along with the MZ Group, a business-research firm) now produces software to help you determine which company stock to buy from the Fortune 500 industrial and 500 service companies.

RATING FUNDS AND COMPANIES

The two mutual-fund programs are similar: Both the Forbes Mutual Fund Evaluator and the Business Week Mutual Fund Scoreboard let investors rank, score, and select stock-based funds and fixed-income funds that most closely match their investment goals. The Fortune 500 Prospector, however, gives you the means to select and rank individual companies.

Forbes Mutual Fund Evaluator. Forbes has been in the business of evaluating funds since 1956, and, like its Annual Mutual Funds Survey in the magazine, the Forbes Mutual Fund Evaluator software surveys a broad range of mutual funds: more than 900 equity and 700 fixed-income funds.

Two key investment criteria are the "up" and "down" market ratings. Nobody else has *Forbes*'s system of rating funds in both bull and bear markets. Most other fund evaluators look at the straight-line performance.

The program screens funds for one of more than 35 separate investment criteria. For example, you could search for all funds that meet the following criteria: 10-year av-



erage annual return of 15 percent or more, *Forbes* up and down ratings of B or better, no load, no 12b-1 fee, and a turnover ratio less than 100 percent.

Such a search, which takes a few seconds, turned up 11 funds when I tried it, including two members of the 1988 Forbes Mutual Fund Honor Roll: Acorn Fund and Dodge & Cox Stock Fund. Any of the selected funds can display additional performance information about that fund, both cumulative and relative to the market.

Except for a standard report, which is an alphabetical list of all funds in the database, there are no preformatted reports in the *Forbes* package. Each time you select a group of funds, you must define the output screen and report format. However, these report formats can be saved for future use.

An annual subscription to the *Forbes Mutual Fund Evaluator*, either for stock funds or bond funds, includes the original program and three quarterly updates. The cost is \$150 for one or \$250 for both. Individual quarterly disks for either type of fund can be bought separately for \$50 each from Forbes CDA Investment Technologies Mutual Fund Evaluator, 60 Fifth Avenue, New York, NY 10011; (212) 206-5515.

Business Week Mutual Fund Scoreboard. Like the Forbes program, the Business Week package helps you identify and display funds that meet your criteria. You choose from more than 830 equity and 690 fixed-income mutual funds, with multiple search-and-sort criteria on over 25 information fields, including a special Business Week Rating, which can measure a fund's performance adjusted for both risk and sales charges relative to either the Standard & Poor's 500 or the market as a whole.

Speed is a major advantage the *Business* Week program has over *Forbes*'s. When you change the selection criteria or sort on a different field, *Business Week*, unlike the *Forbes* software, doesn't reread the entire database.

A more important advantage of *Business Week* is how it displays the selected funds on the screen. In both programs, information appears on the screen with one fund per line, and pressing Enter displays additional data about that fund. *Business Week*, however, displays its funds with 29 possible columns of data. Since not all columns of data can fit on the screen at one time, the columns have been grouped into eight reports. This can be helpful when you want to quickly compare a list of funds on several fields of data.

An annual subscription to either the equity or fixed-income funds program is available for \$199 or \$299 for both. A new monthly subscription costs \$299 per year for either type of mutual fund or \$399 for both. *Business Week Mutual Funds Scoreboard*, (800) 553-3575 or (201) 461-0040.

package provides data on both the Fortune 500 and its twin, the Fortune Service 500 listing of nonindustrial companies. This package is essentially a fundamental prescreening device directed toward business planners, pension fund managers, professional analysts, and money managers, as well as sales managers trying to sell to the Fortune 500.

It contains a wealth of financial data about the Fortune 500 companies, including profitability, equity, sales, earnings per share, and return on investment. It also provides complete addresses, telephone numbers, and brief descriptions and names of up to nine key executives for each company. This information allows people to quickly and easily print mailing labels and personalized letters (you can print letters when text is exported to your word processor).

The Fortune program costs \$299 and is updated annually. MZ Group, 1388 Sutter St., Suite 612, San Francisco, CA 94109; (800) 345-9111 ext. 500 (orders) or (415) 885-5551 (MZ Group). ■

NICK MAFFEI, a teacher at San Francisco State University, wrote about Wealth Insurance in April 1989's Finance department.

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Get TRW Credit Reports On-Line

BY ALFRED GLOSSBRENNER



The good news is that you've just gotten a big order—big enough to make a respectable dent in the down payment on a BMW. Or at the very least, big enough to buy a mobile phone for your

old station wagon.

The bad news is that you've never heard of this customer before. He's sent you an official-looking corporate purchase order, but on close inspection you're convinced it was produced on a laser printer and thus may be one of a kind. Maybe his company is not bona fide. How do you find out?

It was just to answer such credit-history questions that TRW, TransUnion, Dun & Bradstreet, and many similar firms were created. These companies track the creditworthiness and payment histories of millions of businesses—every one that has ever applied for credit, be it public or private.

There's just one problem: Most creditreporting firms are geared to dealing with large corporate clients. Account start-up fees are \$500 or more, and annual minimum usage requirements can go into the thousands of dollars. But you're just a small business, and situations like these don't come up all that often.

Fortunately, your personal computer and modem hold the answer. NewsNet, the online system that delivers primarily trade and industry newsletters, offers an electronic gateway to TRW. Any NewsNet subscriber can simply key in TRW to be connected immediately to the same credit-reporting system large companies use. (See "Electronic Newsletters," in the July 1989 issue, for more information on NewsNet.)

JUST \$36 PER REPORT

The cost per report is a flat \$36, though connect-time charges will probably bring your total cost closer to \$45. You'll also need a NewsNet subscription, which carries with it a \$15 monthly fee, though that can be reduced to \$10 a month if you are willing to pay in advance. The bottom line is that for about \$10 a month and \$45 per report,

ALFRED GLOSSBRENNER is the author of Alfred Glossbrenner's Master Guide to FREE Software for IBMs and Compatible Computers. You can reach him at (800) 628-7637.



Any NewsNet subscriber can tap into the same credit-reporting system large companies use.

you can have the access to credit histories that large companies pay hundreds, or even thousands, of dollars a year for.

The service is available Monday through Friday between 8 a.m. and 10 p.m. (eastern time) and on Saturday between 10 a.m. and 8 p.m., major holidays excluded. (NewsNet itself is available round-the-clock.)

TRW BUSINESS PROFILE

A TRW Business Profile, as it's officially known, usually begins with an Executive Summary that focuses on DBT (days beyond term), which is an estimate of the number of days late a firm is likely to be in paying its bills. TRW's DBT number is based on factors such as the firm's payment history, the number of years the company has been in business, and any existing "derogatory public-record information." This last item includes bankruptcy filings within the last 10 years, open tax liens or judgments, and similar public information. If the

company has put up any property as collateral for a loan, that is also noted.

A Confidence Score, derived from TRW surveys and studies, represents the probability of the customer paying more or less than 30 days beyond the due date. With high-scoring firms you can probably offer discounts to expand sales. With low-scoring "serious credit risks," you should insist on a certified check or COD.

A Historical Payment guide reports the total amount of money owed by the firm for the past six months, the highest credit amount extended to it in the last year, and an analysis of the company's payment patterns during the last six months. Outstanding lien amounts are also given. Those are the components of the Executive Summary.

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A summary of all credit inquiries (names are not given) made about the company in the past nine months is next, followed by three years' worth of balance sheets, operating statements, and "critical data" (current ratio, net worth, and so on) from Standard and Poor's. The report concludes with financial and contract data reflecting any dealings with federal government agencies. If the company has failed to perform on a government contract, for example, that fact will show up here.

A TRW Business Profile, in short, includes a *lot* of information. And while TRW is careful to disavow any warranty for its accuracy, there is little doubt that such a profile can be a great aid in helping you decide whether or not to ship an order.

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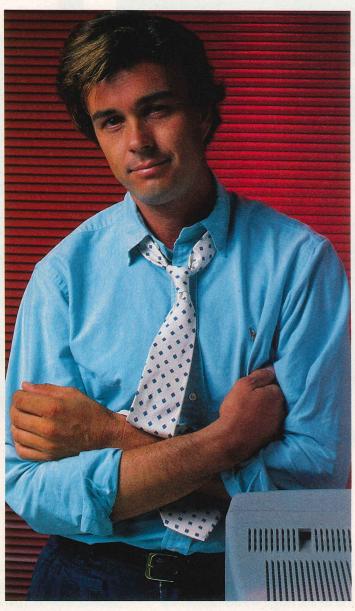
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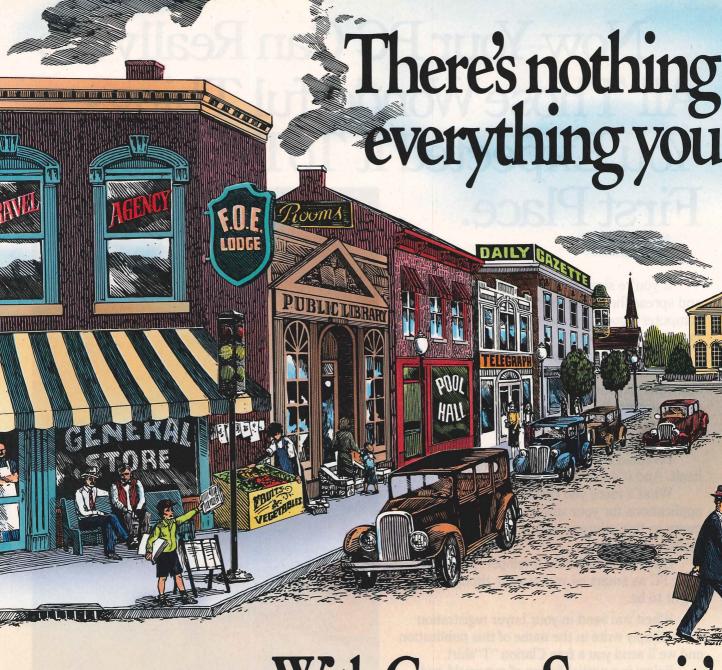
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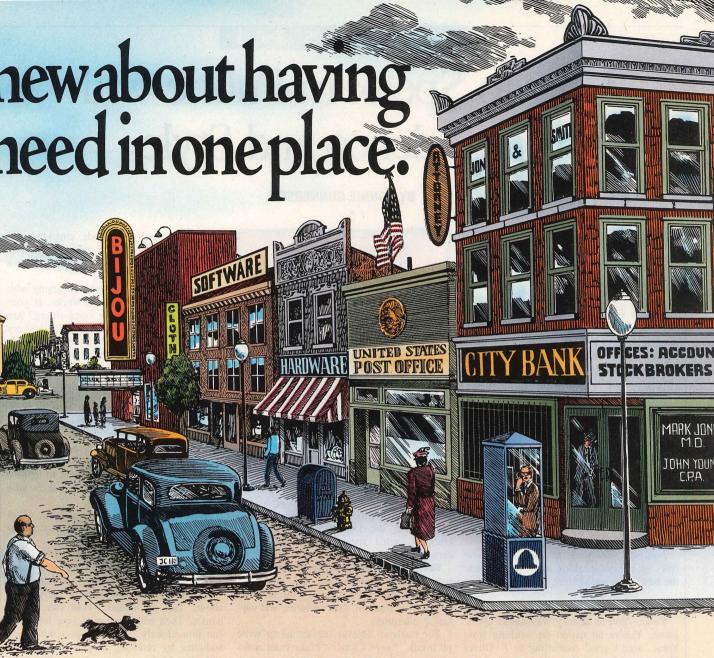
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CIRCLE READER SERVICE 35

How to Speak in Public with Confidence and Style

BY RONNIE GUNNERSON

These Proven Techniques From the Dale Carnegie Institute Will Help You Avoid the Jitters

You've been asked to speak at the local Rotery Club about the benefits of working from home. You agree to do it and your stomach immediately lurches into flipflops. "I'm not a public speaker," you fret. "What will I say?"

More than three million people have conquered their fears of public speaking by taking Dale Carnegie courses. In addition to the original public-speaking training, the hallmark of Dale Carnegie & Associates, the company also offers training in effective communication, human relations, management, sales, customer relations, employee development, executive image awareness, and executive presentations.

Following are some of Carnegie's basic rules of public speaking to help you tame the butterflies and deliver your message.

CARNEGIE'S CARDINAL RULES

Relax. You're already way ahead of the game. You're an expert on working from home, aren't you? According to J. Oliver Crom, president of Dale Carnegie & Associates, you have satisfied the first of the three E's of successful speech making—you have earned the right to speak.

You wouldn't be an expert in an area that didn't *excite* you, so now you have painlessly met the second criterion of Carnegie's three E's—"You have to be excited." Says Crom, "People can fail at speech making simply because they accept engagements they don't care about."

Finally, be *eager* to share your knowledge with your listeners. With those three E's under your belt, you need only a few more words of practical advice and you'll be ready to emulate Lee Iacocca, a Dale Carnegie graduate who wrote in his autobiography, "For the first few years of my working

life, I was an introvert, a shrinking violet. But that was before I took a course in public speaking at the Dale Carnegie Institute. Once I started speaking, I couldn't get enough of it."

Shape the Speech to Your Audience. The better you know both your topic and your audience, the better chance you have of relaxing in front of that audience and capturing attention.

For starters, "Never, never, never write up a talk," says Crom. "Make brief notes of interesting things you want to mention. Do an outline, but instead of putting it in numerical order on a single sheet of paper, use index cards that you can rearrange as you prepare your talk.

"Fill your talk with illustrations and examples," says Crom. For instance, a publicrelations director who is also the mother of a five-year-old was speaking to a group about the challenge of juggling career with motherhood. No discussion could have made her point as poignantly as a simple story she told: Her daughter's kindergarten class pictures were going to be taken while she was on a business trip. She carefully chose what her daughter would wear-a navy blue and red plaid dress, navy shoes, and red socksand left her competent husband in charge. When the pictures came, she didn't know whether to laugh or cry. With her perfectly matched red and navy outfit, her daughter was wearing two bright yellow barrettes.

Her little story drew nods, chuckles, and applause. In all of one minute, she had conveyed the bittersweet compromises a working mother makes.

Rehearse. Crom suggests rehearsing with friends to be sure a speech works. Is your grammar correct? Is your voice strong? Are you enunciating? Practicing proper delivery is just as critical as rehearsing the words you're going to say. Audio- or videotaping rehearsals is an excellent way to evaluate your performance, says Crom.

Make sure your performance is sincere. As Crom says, "The main thing is to be yourself." Don't try to imitate others. Although humor can be very effective in speech making, it won't work if it's forced.

Don't use stories merely for the sake of being funny, however. Use them to make a point. And if you do attempt humor, be sure you don't offend anyone.

Smile. People also respond well when you address them with a smile, a cardinal rule in Carnegie courses.

Talk in terms of "we," not "I." To do this most effectively, find out everything you can about your audience beforehand. If you arrive at the engagement early, mill about. Talk to people. Find out a few names. Then when you give your talk, you can immediately build a rapport with your audience by referring to particular people and areas of the group's interest. The more you can tailor a talk to the group, the more successful you will be, says Crom. He has never given the same speech twice.

Dress Appropriately. Dress is also an important element of your presentation. "Part of how you feel about yourself is reflected in the way you dress," says Crom. He urges that you dress for the occasion. "If you speak at a black-tie affair wearing corduroys and a sports jacket, you'll feel uncomfortable." And probably be less effective.

Dress appropriately, know your audience, speak only on topics you're excited about, prepare well, rehearse, and smile. Follow these rules and you'll find that the rest comes easily. Remember, "The only way to overcome fear is to do what you're afraid, of," Crom says. "After you go through it once or twice, you'll know what to expect." That's when you'll be able to relax and really enjoy public speaking.

RONNIE GUNNERSON, a contributing editor, wrote "How to Write for Business" in last month's HOME-OFFICE COMPUTING.

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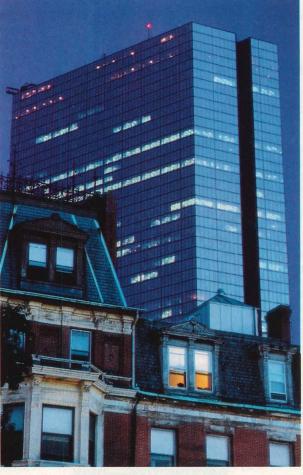
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Space-Making Ideas

BY PAUL & SARAH EDWARDS



Have you ever said any of these things?

"We need more space."

"I have no conference room, so I have to go meet clients."

"I'd like to fix up our

garage and get our living room back."

"We had to rent storage space."

"The business is taking over the house!" What do you do when there isn't enough room for your home and your office under the same roof? Do you move the business away from home and give up the homeoffice benefits of low overhead, availability to children, and no commute?

Well, there's good news! We've seen some creative solutions to the problem of too little space. Making space where there is none usually involves looking at your home from a new perspective, what we call playing Martian. That is, pretend you're from another planet and look at your situation as a complete stranger would, without preconceived ideas about the way things *should* be.

Sarah's mother played the Martian for us. We ran out of space in our previous home and were about to go bonkers. We were willing to add a room onto our house by raising the roof and finishing the attic or taking more space from our lot for additional construction. But every possible solution seemed to have a negative or violate a zoning ordinance.

Sarah's mother said, "Why don't you just add another story above the family room?" It was a perfect solution we hadn't considered because the room had a beautiful redwood cathedral ceiling. So we did the unthinkable and solved our problem.

Here are some other ideas to consider—from a Martian's perspective—for expanding your cramped quarters.

1. Consider every room of the house as a possible office area. Sometimes the best room is not the room you think of first.

PAUL & SARAH EDWARDS are the authors of Working from Home, Everything You Need to Know to Live and Work Under One Roof (Jeremy P. Tarcher, 1987). They cohost the radio programs "Home Office" on the Business Radio Network and "Here's To Your Success!" on KFOX in Los Angeles. Contact them on the Working from Home Forum (GO WORK), which they operate on CompuServe.



To create space from thin air, look at your home from a new perspective—play Martian.

We've seen offices in literally every room of the house—kitchens, breakfast rooms, family rooms, attics, basements, living rooms, and dining rooms. We've even seen a shower used as a sound studio and a bathtub used to dye Chinese sun hats.

2. Convert dead space into office space. For example, the space under a stairwell can make an excellent closet. Unused space between wall supports can be carved out for storage units or bookshelves. Space above filing cabinets is also a great place for shelves to store things you don't use often. You can tuck a 48-inch-diameter round table into a corner and pull it out to make a conference table.

3. Use wall units and bookshelves to quadruple your storage area. You can turn all straight walls in your office into usable space by installing floor-to-ceiling shelving.

4. Convert closet space. We've seen a whole office tucked into a walk-in closet. Linen closets make ideal supply cabinets. If your office is in a spare bedroom, you can increase space by taking the doors off the closet and using the space as a recessed work area. Or, keep the doors on and hide file cabinets in the closets.

5. Separate your office from the rest of the room with a room divider or a screen. Use a wooden divider with shutters that can be opened to let in light or closed to hide your office when necessary.

6. Turn any existing room into an instant office with a folding desk unit by Nordisk. When closed, this unit is a lovely wood hutch, measuring only 32 by 20.5 by 44 inches. Open it up, and it becomes a full-blown desk—64 inches wide, with plenty of storage and filing space. The Nordisk desk space is not big enough for a desktop computer, however; consider it a writing desk or, at best, a place for a laptop computer.

7. Convert a porch, a garage, or an attic. Sarah's first home office in Kansas City was a converted side porch. It was ideal for a home office because it had a separate entrance. Her clients could come and go without going through the main house. Garage conversions also keep your office far removed from household distractions.

8. Add a room. If none of the above solve your space problems, adding a room should be less expensive and time-consuming than moving to a bigger house, as long as you work with a good contractor.

9. Hire a professional organizer. Being on the radio six days a week, we find ourselves swamped with audiotapes—from past shows, interviews, and interested parties. We brought in professional organizer Susan Silver (see "Braving a Jungle of Details," in this issue). She advised us to use databases and install special shelving. Now our tape problem is largely solved.

To make more space where there is none, use your imagination. If you assume that there's always more room somewhere, you'll probably find it. If not, stay tuned. Next month we'll offer some ideas on how to keep your office at home even when you have completely outgrown it.



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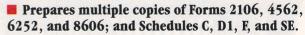
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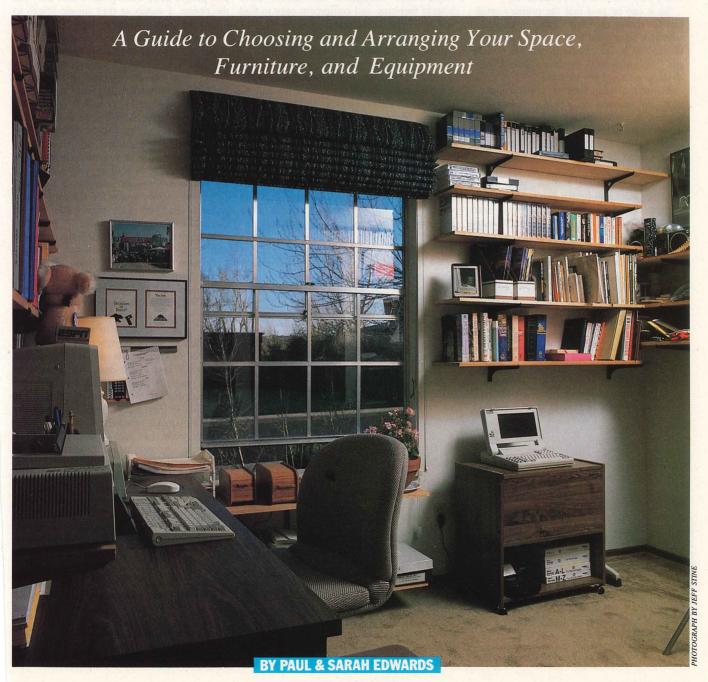
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ORGANIZE!

Make Your Office Work



hen you're famished, hunger dominates your consciousness. But once the hunger is satisfied, you're free to get on with the business at hand. Similarly, when your home office is uncomfortable, it's difficult to work in it because you're preoccupied with inconveniences. And that's the situation for a lot of home-office workers.

"Too many people work in a space that is not designated for work," says Karen Shortridge, a professional organizer. "They work on the corner of something. Or when they have the space, they don't plan how they'll use it. Instead of buying what they need, they try to get away with not spending the money it takes to be comfortable. It's their space and they need to love it. Otherwise, they won't use it productively."

So it can be said that the primary guideline for setting up a home office is to plan in advance, anticipate your needs, and satisfy them. You'll work better if you don't "hunger" for a new desk or chair, better light or shelves, or a quieter location.

To take a fresh look at how to make a plan and execute it, we interviewed both home-office veterans and professional organizers who get called in to help when a home office isn't working. While both groups cited the importance of good equipment, furniture, and space, they agreed that the way you arrange and use your space, furniture, and equipment can be just as important. Again and again, home-office users and experts cited four bottom-line criteria for making office space work:

• Convenience—the setup should save and simplify work.

• Comfort—the office should be comfortable and relaxing and cause you no pain or strain when you're working.

 Functionality—work should flow smoothly and items used every day should be within arm's reach.

• Privacy—the office space should be insulated from intrusions and disturbances.

Here's some of the best advice we gathered for making your home office as convenient, comfortable, functional, and private as possible.

OFFICE LAYOUT

Florence Feldman, owner of Clearly Organized in Reston, Virginia, says that most people take a "ready, fire, aim" approach to setting up a home office. More than a few home-office occupants she knows have bought furniture and equipment only to find it didn't even fit the space.

In planning home-office space, you should be as creative and methodical as you are in developing your total business plan. After his original setup became overcrowded, Richard Schrand, a publicist for nationally known actors, singers, and performers, used his Macintosh with MacPaint and Da-Vinci software (the latter is a furniture-layout program) to replan his office so "everything flows smoothly."

You can also plan your space using the Stanley Project Planners Office Designer Kit (Stanley Tools \$15)—a plastic grid on which you arrange peel-and-stick office furniture and architectural symbols.

Functionality

What should you plan for? "I like having



Judith Wunderlich, who runs a temporary-employment agency for graphic artists, designed her office so that her two young children can see-but not bother-her while she works. "When I go to work now," she says, "I forget what time it is."

everything within easy reach so I can pull out anything in 30 seconds," says Daniel Janal, of Fort Lee, New Jersey, who does public relations for technology clients. His comment sums up functionality.

Kathryn Acess, who operates A&A Retirement Consultants from her Jersey City, New Jersey, living room, found out the hard way that it pays to have all your work and tools in the same spot. "When I first started out, my desk was in one room and my computer in another. Since my husband was using it too, I thought this arrangement would work, but it was more trouble than it was worth.

According to Marge Abrams, an organizational consultant, people often unintentionally build in inconvenience. "For example, people don't think about where they put the phone. I watch as they juggle things to get to the phone when it rings. Then I see them contort themselves to answer it," says Abrams. "Yet the solution is simple. Where you place your phone for maximum convenience depends on whether you're righthanded or left-handed. If you're right-handed put the phone by your left hand. That leaves your right hand free to write on the notepad by the phone. And vice versa."

A truly functional office has two desksor at least a desk with a return-so you have a surface for both writing and reading as well as one for your computer. You will also need surface space for telephones and printers—and perhaps a mouse, fax, copier, external modem, and scanner.

Your office will function better and you will be more comfortable if you have "contemplation space" away from your desk where you can think creatively. This reguires a place for a comfortable chair. And if you will be meeting people in your home office, you will also need "conversation space" with side chairs or a couch.

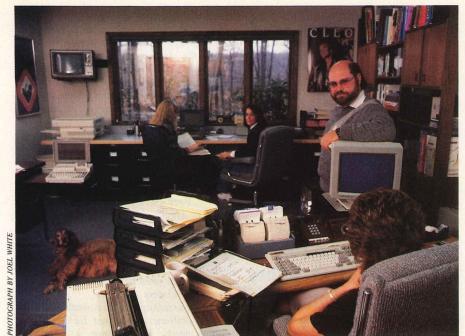
Of course, you need space for shelves and cabinets for supplies, books, and equipment you don't use every day. As a business grows, there is never enough space for paper records. The use of computers and fax machines is increasing, not decreasing, the amount of paper produced.

Your work may also require larger work spaces for assembling or producing goods and doing mailings. One or more six-foot tables or a large built-in wall cabinet at table height works well for this.

Privacy

"Location, location, location," says Susan Silver, author of Organized to Be the Best. (EDITOR'S NOTE: Silver is featured in "Braving a Jungle of Details" in this issue.) "It's the number-one mistake people make setting up a home office. Most home offices start out in one part of the home and wind up somewhere else.'

Office space needs to be free from intrusions and disturbances. Scott Ogle, a freelance television producer who works from a



Kurt Gebauer, a theatrical-management consultant, hired a designer to help arrange his office so that several people could work together comfortably on one floor of his New Jersey home.

home, started out on his dining-room table. "Writing with people around didn't cut it," he says. "I needed privacy." So he moved his office to a spare bedroom. "Once I got rid of the ironing board, I was home free."

When Judith Wunderlich, who operates a temporary-employment service for the graphic arts industry, began working from her Schaumburg, Illinois, home, she used a desk in the family room. It didn't work. "I found I couldn't work there because of the many distractions. More than once, my child pushed the computer's reset button and I lost valuable work. I had to wait until everyone went to sleep to do anything."

So she turned her basement into an office that is adjacent to but separate from the kids' playroom. "When I go to work now, I forget what time it is. I have two clocks to remind myself of the real world-like when to feed the kids. But if I didn't have a quiet, comfortable place to work, I think I might lack the willpower to get things done."

Freelance writer and research analyst David Palmer of Tucson, Arizona, moved his office from a spare bedroom to a 10-footby-10-foot prefabricated building. Palmer advises others to "be sure you've got some degree of separation from household activities so your work space is defined not just by a wall but by the traffic pattern. If you're in the house, avoid a traffic pattern that takes people right by the room or door. If possible, have an outside entrance, because someone will always be coming over."

Designer Touches

For most home-office workers, comfort takes precedence over style. A comfortable office is one that allows you to work without pain or strain. "I want a work environ-

spare bedroom in his Boulder, Colorado, ment that suits me, one with my hi-fi and CD's," says Kathleen Tinkel, who designs marketing packages for small businesses and produces publications for nonprofit organizations from her Westport, Connecticut, home. "My home office is more comfortable than one I could afford to rent."

> When Kurt Gebauer, a consultant specializing in theatrical management, moved his office from his apartment to the 24-by-40-foot ground floor of his new home in New Jersey, he arranged his office furniture as he had in his apartment. But an interior designer helped him correct this awkward mistake. Now, as his business has continued to grow, he says it's "time for another design."

> Temporary-agency head Wunderlich designed her own office. She attributes a substantial turnaround in her productivity to the decision to redecorate her office with new carpeting, art, and wallpaper. "It made me feel more comfortable. I didn't know I needed those decorator touches, but apparently they work. I guess I found that putting a desk in a spare bedroom along with the guest bed is just not conducive to work."

> The quickest and cheapest way to freshen up an office is with a fresh coat of paint. Note that your choice of color can affect your comfort and productivity. For example, light-colored walls reflect light, which helps you see better and creates a pleasant atmosphere.

> The most common color for home offices is white, but other colors can be very effective. Cool colors, such as blue, cause people to feel cooler. Warm colors, such as yellow, make people feel warmer. Walls covered with shelves provide storage but can darken a room. Wood, by the way, reduces stress, but too much dark wood causes drowsiness.

Lighting

Finding the right lighting balance for working at your computer can be challenging. According to professional organizers, few do it right. They find home offices are usually underlit. On the other hand, the American Optometric Association finds that corporate offices, which are usually lit by fluorescent lights, are about twice as bright as they should be for computer use. So merely installing fluorescent lights certainly won't solve the problem. And since fluorescent bulbs, even when functioning properly, emit a low buzz, you'll cut down stress if you avoid them.

To increase the light from your existing incandescent fixtures, use halogen bulbs. They fit in regular sockets, give off a crisp, white light, save energy, and last more than twice as long as ordinary bulbs.

Of course, the best light for you is also the cheapest-natural daylight. And northern light is the best of the best because it produces less glare. But you can simulate natural daylight with incandescent bulbs made with neodymium or full-spectrum tubes for fluorescents.

While you may need added task lighting for reading or detailed work, keep lighting on your computer low and increase the contrast on your monitor. This will keep down the glare. To eliminate glare from a window, move your desk to another location in the room, get a window covering such as shades or venetian blinds, change the position of your monitor by using a tilt-andswivel monitor base, or buy a glare filter.

"I like having everything within easy reach so I can pull out anything in 30 seconds."

Other ways to prevent eyestrain are to illuminate your work area with the same degree of brightness as the surrounding area (that means not facing into a window while you work at a computer); get a copyholder to attach to your monitor; and use eyeglasses with coatings that reduce glare.

FURNITURE

Furniture is one of the areas where homeoffice workers tend to over-economize, at least at first. "Until a person is successful in a home business, he or she doesn't spend a lot of money on furniture," says consultant Marge Abrams. "They use what's in the house. I've done the same thing."

But, if you consider that you spend as much time in your office as you do in your bed, it certainly pays to outfit your space with comfortable furniture. But that doesn't necessarily mean Herman Miller chairs. "Buy products that are functional," says theatrical-management consultant Gebauer. Chances are, you're the only one who uses and sees them. Don't spend top dollar for extra-fancy desks and such unless your ego demands it."

Desk Chair

Whatever you do, don't skimp on your chair. If you're going to be spending much more than an hour a day at your desk, buy a high-quality chair. About half the people interviewed for this article reported having at least occasional backaches, neck aches, headaches, or eyestrain. A number of factors may be responsible, but your chair should be the first suspect.

Choose a chair whose seat can be adjusted up and down so that you can keep your feet flat on the floor. The chair should have a back that provides support for the base of the spine. The backrest should be high enough to allow you to rest your whole back against it. The seat should be made of a material that is rough and porous (a leather seat will shine your clothing). Test drive the chair before you take it home.

Computer Desk

The first factor in evaluating a desk is its height. Writing desks and computer desks work best at different heights-25 or 26 inches for a computer desk and 29 inches for a writing desk. If you buy a computer desk that you will take home and assemble, be sure it has a sturdy drawer to store disks, cables, and other supplies. The desk should also have a convenient way to manage and hide cables and cords. In the back, there should be precut holes or openings large enough for cable connectors.

The desk should also have a shelf to store



hardware and software manuals. To avoid neck strain, you should be able to place your monitor at eve level. A desk with a hutch or a monitor arm will enable you to do

Shelves and Filing Cabinets

Just as you can never be too rich or too thin, you can also never have too many filing cabinets or bookshelves. To save floor space, consider placing file cabinets in clos-

"People in corporations kill for corner offices with a window, a couch. and an easy chair. If they get it, they're king of the world. I didn't have to kill for mine."

ets. Besides holding books, bookshelves can be used for stationery, supplies, and small equipment. Consider wall units that go from floor to ceiling because such units can quadruple your storage space.

EQUIPMENT

What first-time buyers often don't realize is that the right equipment will save time, and quality equipment will save money on repair and replacement costs. "It's cheaper to buy a tool than to hire somebody or run around getting outside services myself," says graphic designer Tinkel. And how many home-office workers can nod in agreement with retirement consultant Acess's statement: "My biggest mistake was trying to cut costs buying used equipment that hadn't been thoroughly checked out, then spending more money than if I had place."

Computer System

If a wide selection of business software is important to you, your choice for a computer system is between an IBM-compatible and a Macintosh system. The main trade-off is between lower cost and ease of use.

Whatever system you select, the keyboard and monitor are the components you will interact with most often. Therefore, buying a computer with a keyboard you like is vital, unless you're willing to spend additional money on a substitute keyboard. Get the highest-resolution monitor you can afford. Color is addictive!

Dan Janal, a publicist for technology companies, designed built-in furniture to make the most of his office in his small New Jersey apartment.

Consider placing your system unit in a tower on the floor to save desk space. To double the warranty, purchase your equipment with Gold MasterCard, Gold Visa, or American Express. Even if you pay an additional fee to cover the dealer's bank charge, the charge is less than the cost of an additional service contract.

Printer

Look for the following when selecting printers: quality of the output, speed, noise level, and reliability. For tight budgets, the Hewlett-Packard DeskJet Plus (for MS-DOS) or HP DeskWriter (for Macintosh), are both superb inkjet printers. If you can afford one, a laser printer is a better bet for the long run and will pay you back in productivity and convenience. Both laser and inkjet printers are much quieter than impact dot-matrix printers.

Adding a backup printer is worthwhile, in case of malfunction or just for secondary printing needs. For instance, a dot-matrix printer is good for multipart forms; a small printer, such as the Diconix 150 Plus, is extremely portable; and a color printer, such as the Hewlett-Packard PaintJet, is excellent for presentation charts.

Telephone

Most home-office workers spend more time on the telephone than any other activity, so your phone equipment should be accessible and easy to use. Here are some options. A headset frees both of your hands for computing while you talk, prevents neck strain, and, if you spend many hours on the phone, also prevents "cauliflower ear." Headphones should be lightweight and fully adjustable to conform to your head and hair. A headset with a belt clip and long cord will enable you to move about freely. (Research shows you'll sound more lively if you stand up while talking on the phone.)

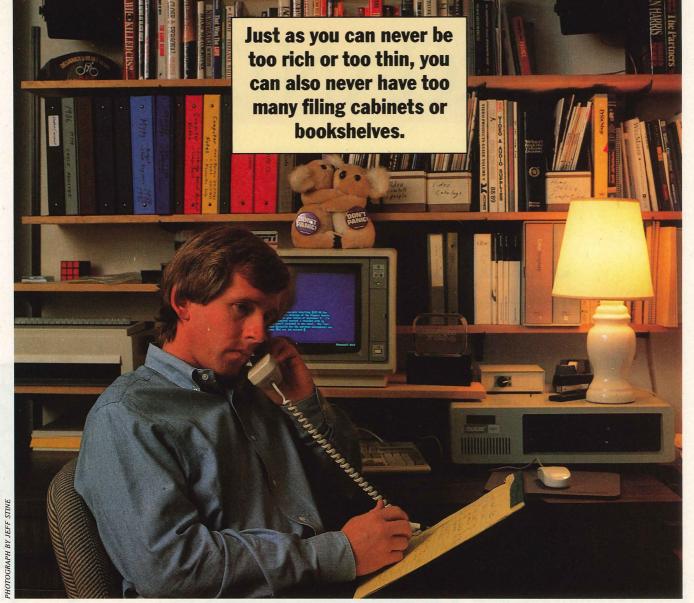
A cordless telephone enables you to answer business calls indoors and out and gotten the proper machines in the first should transmit your voice clearly enough that people won't know you're using a cordless phone. If you choose a cordless phone with 10 or more secured channels, other signals shouldn't interfere.

> A two-line phone puts your personal and business lines on your desk without the clutter of two telephone sets. Two-line phones are available in corded and cordless models.

Personal Copier

Personal copiers are convenient and will save you time. Copy quality, ease of use, and reliability are primary considerations. Copiers that use cartridges are more convenient than those that require toner.

People who need only occasional copies can use a fax machine as a copier to save the space and cost of an additional piece of equipment. But fax copies on thermal paper aren't good enough for business use, nor do they last as long as plain-paper copies.



To get more privacy and space, Scott Ogle, a freelance television producer in Boulder, Colorado, moved his office from the dining-room table into this pleasant spare bedroom.

Fax Machine/Modem

Select a fax with the resolution you need. A graphic designer, for example, needs a higher-resolution fax than most other business people. Make sure the fax machine can send documents the size you use. If you need to transmit high-resolution documents or send documents overseas, consider a fax with data-compression capability to reduce your telephone time.

An alternative that will save space and cost is a fax/modem, such as the Intel Connection CoProcessor, for your computer. Computer-generated faxes are much clearer on the receiving end. However, a fax board will not send noncomputer documents unless you first scan them into a computer.

Besides a fax, a modem is critical to most remote office workers, both as a means of transferring files to other offices and conducting on-line research. With prices of 2400-baud modems now as low as \$150,

why go for less? If desk space is a problem, an internal modem is the solution.

Postage Meter and Scales

If you do a lot of mailings, a postage meter (leased by Pitney Bowes and other companies) will save you labor and time. For most home offices, however, a postage scale is sufficient. A digital electronic postage scale is more accurate than a conventional spring scale and helps prevent costly errors. Sunbeam sells a digital scale for less than \$100.

BOTTOM-LINE CRITERIA

By planning your home office with your objectives in mind—convenience, comfort, functionality, privacy—you'll enjoy the rewards of a comfortable work space. For retirement consultant Acess this means "getting work done, keeping clients happy, and not pulling out my hair." Richard

Schrand, who has worked for 10 different television stations, says, "Until now I never felt at home in an office. Now I pick out and choose everything I use, and I'm totally at home." Daniel Janal proudly says, "People in corporations kill for corner offices with a window, a couch, and an easy chair. If they get it, they're king of the world. I didn't have to kill for mine."

Fortunately, setting up a home office is becoming easier because manufacturers are creating new products and modifying old ones for home offices. Retailers are featuring these new products in stores and sections of stores devoted to home offices. Plan your office to work, and you'll be free to go about your business.

Contributing editors PAUL & SARAH EDWARDS write the monthly Working Smarter column.

ORGANIZE!

Braving a Jungle of Details

BY LINDA STERN

Organization Experts
Tell You
How to Put Your
Business in Order

arbara Hemphill, who organizes small businesses for a living, is late for our interview. When she arrives, she tells me she forgot her wallet and didn't have enough money to park her car in a downtown garage. She had to circle the block to find a parking space with a meter that would take the few spare coins she found in her pocket, or even better, a meter with extra time on it.

So much for the compulsive commando I was expecting.

For the rest of the interview, Hemphill is indeed the picture of orderliness, with the right information, anecdotes, and referrals at her fingertips. She must be doing something right, because her business now includes consulting, public speaking, and book and product sales and earns her a six-figure income.

Hemphill is one of a growing number of professional organizers who is adding small businesses, especially home-based businesses, to her client list. Having helped us clean out our kitchen cupboards and our bedroom

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closets, organization experts are moving on to where we need them most—our home offices. Our bulging file cabinets, cluttered desktops, unanswered telephones, and unopened mail cry out for their finesse. There are special problems for home-based businesses that make them prime targets for specialty organizers: Their owners don't have the time or space to be disorganized, and the proximity of their personal lives makes the need for order more critical. "On the home front, there's a lot more emotion that comes into play, a lot more indecision, and a lot more angst," says Montrose, California, organizer Stephanie Culp.

FINE TUNING

The myth about professional organizers is that they are all anal-retentive types who disdain creativity, and the falsehood about their clients is this: Anyone who calls an



organizer is helplessly, hopelessly disorganized. "Most of my clients are professionals who just need fine tuning," notes Santa Monica, California, organizer Susan Silver.

Indeed one of her clients is Sarah Edwards, who should be familiar to readers of HOME-OFFICE COMPUTING as a nationally recognized expert on home-office management and organization.

"I walked in to her office and asked, 'What do you need me for?' " says Silver. "She is meticulous."

Edwards, a psychotherapist by training, called Silver when the tapes and information files associated with the newly expanded radio show that she and her husband, Paul, moderate started getting unmanageable. She needed a new system for what was becoming a bigger part of her business. "With success came more of everything: more paper, more phone calls, more people to deal with, and more records to keep," says Edwards.

Silver set up tape files and a new recordkeeping system for Edwards to track the show's guests, music, and programming. "It only takes two or three hours a week to keep up now," says Edwards. (See Working Smarter in this issue for more information on the Edwardses' filing system.)

That's a typical profile of a home-office organizer's client: a successful entrepreneur whose organizing plan isn't keeping up with his or her success. "Sudden growth gets me a lot of my calls," says Culp.

HIRED HELP

Another situation that can make a small business ripe for professional organizing is the resignation of a key employee. It's easy for a start-up company to become overly dependent on one person. That's why Culp advises against making a family member that key employee. "That is the biggest problem I see in home-based businesses. I know it's cheaper to hire family, but think before you leap," she says. "This is typical: The business was started by some creative genius who gets his mother to do the books and his spouse to do the phones. Suddenly he hits a growth period; his wife isn't available because she has other things to do, his mother wants to travel, and the operation isn't functional."

As service providers, these professional organizers are comfortable with the idea of hiring others. "I'd rather pay someone to do what I don't do well," says Hemphill, who uses a wardrobe consultant. Culp uses a computer-services company to maintain her mailing list and publish her newsletter.

Culp and her colleagues advise homeoffice entrepreneurs to hire professional organizers while their businesses are still small. Once the companies are large and unwieldy, it can cost thousands of dollars to



get a Culp or a Hemphill to sift through all the paper.

One of the biggest roadblocks to hiring an organizer is finding one. They're battling to get listed in the yellow pages, but, as yet, they haven't been able to establish a category for professional organizers. At this point, ask colleagues for referrals or check the local newspapers under management consultants. For \$7.50, the National Association of Professional Organizers (3824 Ocean View Blvd., Montrose, CA 91020) will send you a directory of its members.

THEIR BEST TIPS

Here, organizing consultants Stephanie Culp, Florence Feldman, Barbara Hemphill, and Susan Silver offer their best advice for home-based entrepreneurs. These tips are drawn not only from their professional organizing abilities but from their experiences as home-based business owners. Susan Silver, who provided the advice on computer organizing, is the only one with an office outside her home.

YOUR OFFICE: GADGETS AND SUPPLIES

- We all know this cardinal rule of home offices: Keep your workplace separate from your personal life. It's best if you can start from scratch with an empty room and only bring in the papers, tools, and supplies you need for your business. If your office is in the corner of a room, use a decorative screen to set it apart.
- That separation doesn't mean that you should strip your office of personality. People work better with furniture and decorations that make them feel comfortable. Florence Feldman's home office has an oriental rug on the floor and toys on the desk.
- Invest in serious business tools, such as a separate bank account, a separate telephone line, a fax machine, and a professional telephone-answering system. Barbara Hemphill uses a sophisticated voice-mail system that relays messages to the right em-

ployee. Susan Silver says a two-line answering machine is worth the extra expense. These accoutrements will help your business run smoothly; just as important, they will help you think big about your future. "Maintaining a prosperity mentality will eliminate the fear of scarcity in your life," says Barbara Hemphill.

- Keep the supplies you need in your desk or work area. Don't run around the house to find the stapler or dictionary; buy new ones to keep in the office. Treat yourself to new file folders, labels, baskets, or whatever. Some of the organizers' favorite gadgets: copy stands, paper-cutting tables, telephone headsets, car mileage log books. hand-held electronic organizers, and, of course, the Rolodex.
- Keep a reading basket equipped with stapler, scissors and highlighter pen, and use it to store all the magazines and newspapers you want to browse through. You can carry the basket around the house with you; when you get time, sit in your favorite chair, go through the basket, clip and staple what you want, and toss the rest.

Having helped us clean out our kitchen cupboards and our bedroom closets. organization experts are moving on to where we need them most—our home offices.

- Whenever possible, use vertical files, not horizontal ones. Horizontal piles just seem to get higher and higher. The best filing system, according to Culp, employs both hanging and regular file folders. Use hanging file folders for every topic and use a regular manila folder for every hanging folder. Then, when you need to use a file, leave the hanging folder in place and remove the manila folder. Your files will look neater and never get out of order.
- To create a new filing system, make piles of paper first-all over the floor if necessary. Then, when categories start to emerge, name your files. Don't try to make all of your papers fit into predetermined categories. Arrange your files alphabetically. Even if you've resisted this, you'll be surprised at how much easier it is to locate things.



BARBARA HEMPHILL TAMES THE PAPER TIGER

Barbara Hemphill started humble. Broke and living in New York, she went to the park every day with her three children and listened to the other mothers on the playground grumble about their closets, their calendars, and their overwhelming lifestyles. "To me, organization wasn't a problem, and I started to help them informally." Later she put an ad in the paper, "Organizing Consultant Can Help You Make Better Use of Time and Space," which attracted her first serious client, a widow with "piles of paper and piles of money." She was in business, at a rate of \$10 per hour.

Her transition to corporate and home-office organizer was gradual: Many of the people who were using her at home brought her into their offices. "Often we went in at night or on weekends, because they were ashamed to let their bosses know they had hired an organizer. People would make incredible excuses for my being in their office at midnight.'

As the home-based-business trend picked up, Hemphill began attracting a clientele of craftspeople whose offices defied easy categorization. It takes more than a file cabinet to organize the work space of a potter or stainedglass-window maker. Now she finds herself organizing bigger and bigger companies.

Hemphill now works out of a fairly sophisticated home office in Burke, Virginia, that is equipped with the latest in telephone technology. Her office takes up an entire floor of her house and has room for a secretary and two other consultants. "Home is not synonymous with unprofessionalism," she asserts—she even dresses up for sales phone calls. She also maintains a Washington, D.C., mailing address and phone number.

Hemphill just bought a new Zenith laptop computer. She recently returned a borrowed machine, but not before she'd become dependent on the database, word-processing, and mail-merge functions. She keeps a list of all of her professional contacts so she can sort by relationship, service, how they met, and other criteria. She keeps files of form letters and even keeps a database of quotes to use in speeches.

Her public-speaking engagements and publicity from her book, Taming the Paper Tiger (Hemphill and Associates; \$10.95), help Hemphill bolster her growing business.

it. Hemphill carries her pocket-size one with her and enters every meeting, appointment, and deadline on it. Carrying a hand-held electronic organizer like the Sharp Wizard or the Casio Boss is another great way to keep track of your schedule. This is one place where it's okay to merge the professional with the personal, since you won't want to plan a client meeting when you have theater tickets or a parent-teacher conference. You may choose to keep your calendar on your computer with a program like SideKick or WordPerfect Library. These programs will act as a tickler file as well, reminding you daily of what you have to do.

- Even if you don't keep your schedule on a computer or a hand-held electronic organizer, write a daily to-do list. Stick to
- Set up files for all your tax deductions at the beginning of the year and use them religiously. Barbara Feldman recommends a mini file, made up of check-size manila file folders. As receipts come in and checks clear, put them in the right folders.

Susan Silver uses a checkbook that automatically makes carbon copies of checks as • Use a calendar and put everything on she writes them. And any simple spread-

sheet program can be tailored to your expense categories.

At the end of the year, you're ready to turn the whole package over to your accountant or total up the different categories with-

Tax-preparation software, such as MacIn-Tax from SoftView, will also help you keep your tax information organized.

• Be ruthless about what you save, or 'archive'' in organizer parlance. All organizers love to quote this statistic: 80 percent of everything that gets put in file cabinets never gets used. Set aside one day every six months to comb through your files and discard what you don't need. You can schedule this day in your electronic organizer.

BUSINESS BASICS AND TIME MANAGEMENT

• Hire temporary and part-time help, and be creative. When Barbara Hemphill needed to collate a calendar book, she went to a shelter in Washington, D.C., and hired homeless women to do it. Contact local senior citizen's groups and consider the people in your own neighborhood who would love to have typing, bookkeeping, filing, or

other work they can do with limited hours. Delegate to save time and your sanity. "You'll drag yourself down if you try to do it all," she says.

- Use free help, like travel agents to plan your trips and librarians to do background research.
- Expect peaks and valleys. During the slow times, squelch the tendency to panic and use the downtime to work on really big projects, marketing, and publicity drives.
- At the end of each day, take 10 minutes to clean your desk and make your to-do list for the next day.
- Use forms whenever possible. If you find yourself always making the same types of decisions or writing the same kinds of memos, try to create a template on your word processor so you can just check off a box instead of writing a new memo each time. Similarly, write and store standard



CULP CONQUERS CLUTTER

Stephanie Culp is a founding member of the National Association of Professional Organizers, a group that has more than 300 members nationwide. She sees many of the members turning their attention to home-office situations. "There are more people going into the business all the time."

Culp's office is in her guest bedroom, and she jokes that it's so small she leaves the file cabinet open to F so her guests' feet have something to hang into when they sleep over. There are other ways to arrange it, but she wants to keep her desk by the window.

Culp tells that story to show that not all organizers are compulsive or rigid in their quest for order, and that some consider themselves to be creative and adaptable. That's a point made repeatedly by most in the field.

However, Culp does admit to being computer illiterate, and in fact, she hasn't even approached the computer a client gave her a few months ago. But her business is computerized; that's what she pays a consultant for.

Culp, who has written four books including *How to Conquer Clutter* (Writer's Digest Books; \$10.95), publishes a newsletter, does extensive public speaking, and bills out at \$125 an hour, exemplifies success.

letters that you can send over and over again with only minor changes.

• When you buy your letterhead stationery, get little cards or note paper printed up at the same time, and set aside time to remember your good clients. Send thankyou notes, newspaper clippings, or other information you think they will like. "It may sound simplistic," says Hemphill, "but courtesy is the one element your big competitors will often ignore."

ORGANIZING YOUR COMPUTER

- Don't stuff your computer with files that you no longer need or use. It will slow down the system. Purge inactive files regularly.
- Set up your own organizational system for managing your files. If you work on an IBM-compatible system, use your subdirectories; on a Macintosh, use the desktop folders. But know what your categories are and where you store your applications and documents, and keep a written record of these files. Keep your categories small enough so that files don't get lost in them.
- Back up your computer files. To computer specialist Susan Silver, this means keeping duplicate disk or tape backups of everything at another location, such as a safe-deposit box or someone else's house.

Besides saving work as you go, back up your files regularly—once a day or once a week, depending on how much work you generate and how hard it would be to recreate. Pick a backup routine that you will stick with. Silver uses *Fastback Plus* by Fifth Generation Systems. Other programs are Genoa's *Galaxy 3260* and Maynard's *Maynstream 20*.

- Use a hard-disk drive and optimize your disk with a cleanup program like *Disk Express* from Alsoft or SoftLogic Solutions' *Disk Optimizer*. These programs basically organize the way your data is recorded on the disk, and an optimized disk will run faster and smoother. For heavy users, optimize once a week; others can do it less frequently.
- Organize your floppies. If it helps, use colored disks; keep printed directories for all of your floppy disks. Back them up too, and date them.
- Use a database program for all of your customers, suppliers, potential employees, and other contacts. "A database program is essential," says Susan Silver, who uses hers constantly in her own business.

Organizing your home office will take more than just reading an article full of useful advice. You have to want to be organized and concentrate on practicing these tips, and you may even have to hire a professional organizer. But once you have a system set up, your business will run more smoothly and effectively.



ORGANIZE!

Software That Suits Your Style

Find the Best Information Manager to Track the Dozens of Details That Cross Your Desk Daily

BY JACK NIMERSHEIM

homas Genslak represents a new breed of business person. The prototypical entrepreneur, Genslak is president of Custom Instruments Associates, a small company that designs and manufactures highly specialized equipment used in genetic engineering and biomedical research. Genslak's official title is more a convenience than the result of any corporate coup. When I said "small," I wasn't exaggerating. Custom Instruments' personnel file contains a single folder: Tom Genslak's. Even though his company is small, however, Genslak's organizational needs are not.

When Genslak and I spoke, he was juggling six major projects—and dealing with all the logistical headaches such a large workload entails-from an office located in the garage behind his home in Bartlett, Illinois, 40 miles outside Chicago. On that particular day, a part ordered from one of his vendors had not yet arrived, and the tool-and-die company to whom Genslak subcontracts the actual manufacturing of the high-tech instruments he designs was on the phone wondering when to expect it. Without missing a beat, Genslak pressed a few keys on his personal computer, looked up the part in question, verified that it had been ordered, checked its scheduled delivery date,

called his vendor to confirm this information, analyzed what impact an unavoidable two-day delay would have on subsequent tasks, adjusted the project's critical dates accordingly, and then passed this information on to his subcontractor—all from within a single software package, Who-What-When.

You may be surprised that your personality type should be considered when deciding which software to buy.

SURVIVAL OF THE UP-TO-DATE

As the preceding story illustrates, Genslak's survival hinges on his being able to manage information (and a lot of it) quickly. In this respect, Thomas Genslak is not so different from you or me, or millions of other people trying to carry a small, independent enterprise into the 1990s successfully. Early on, Genslak discovered that a computer and the right software could help him organize and manage the copious information that crosses his desk daily. While

that's not a major revelation, it is one from which any entrepreneur can profit. But which program, out of the thousands out there, can best meet your needs when it comes to managing the information the survival of your business depends on?

Unfortunately, not all information falls into obvious categories. Text retrieval, time management, and project planning are relatively specialized activities; each depends on manipulating similar data in quite specific ways. But what about all that other, random information floating around out there—the kind that flows into our lives on a regular basis and isn't readily pigeonholed, but still requires organization if it is to be managed effectively? Recently, a new and somewhat nebulous software genre has surfaced to help tame this information beast—Personal Information Managers, or PIMs.

IZE is the program I rely on to coordinate my various writing assignments. While IZE differs radically from the program Genslak uses, Who-What-When, both are often grouped as PIMs with such programs as GrandView and Lotus Agenda, all of which run on MS-DOS systems. On the Macintosh side, programs like Focal Point II and MORE II can be classified as PIMs.

In one light, a PIM is a free-form database that uses primitive artificial-intelligence techniques to collate and organize the unstructured information it contains. In another, it's any program that helps you orga-

JACK NIMERSHEIM writes from his Covington, Kentucky, home.

nize text, manage time and clients, or structure your ideas-or some melding of those functions.

When looking at such an eclectic class of software, how can you know which program to choose? For many people, this decision seems a matter of investigating several programs and then selecting the one with features and functions that match their needs. What may surprise you is that your personality type should also be considered when making this decision.

DIFFERENT (KEY)STROKES FOR DIFFERENT FOLKS

For several years now, I've had this tendency to classify people I meet into three distinct personality types: list makers/note takers, outliners, and schedulers. In pre-PC days, I decided which group a certain individual should be assigned to by observing the tools he or she most often used to scribble down information while planning various activities.

Walk into a note taker's office, for example, and it's probably wallpapered with those little, yellow squares of self-sticking stationery commonly referred to as Post-its (the original brand name).

Outliners, on the other hand, usually have a few legal pads strewn around their desktop, each containing structured notes prioritizing the activities associated with one or another project they're working on.

And schedulers consult their appointment books and executive calendars as frequently as televangelists quote the Bible.

My characterizations do not represent value judgments, mind you, but are simply an attempt to analyze the ways in which people work and then identify the tools most commonly associated with a given technique.

When I became a computer consultant, I quickly realized that these informal categories could be useful in helping my clients decide which software tools would allow them to manage information relating to their business. Put simply, the type of information manager you are can, and should, influence the type of software you buy. Of course, many people combine qualities of more than one of my categories; and so, naturally enough, do many PIMs. Here are some specific examples of what I mean, starting with a personal confession.

"NOTE-ABLE" SOFTWARE

I've long admitted that I'm a compulsive note taker. My own home office is filled with hundreds of notepads, napkins, and, yes, even matchbooks on which I've scrawled various tidbits of information through the years. IZE has proved invaluable for organizing my life, in that it seems suited to a Post-it person like me.

Suppose that I'm sitting at my computer, and an editor calls to inform me that Quick-Draw McGraw, an imaginary graphics program I need to finish an article, will be

shipped to my house the following week. As we talk, I write a short note to myself, within IZE, outlining this information. While doing so, I identify several itemsthe magazine's name, the editor's name, the product's name, and its anticipated arrival date-that I want to make into keywords associated with that note. Later the same day, I come across a review including some information about QuickDraw McGraw that I figure might be worth looking into once that program arrives. I simply write another IZE note to this effect, again identifying QuickDraw McGraw as one of its keywords. Over the course of the next few days, I repeat this process several times, once for each additional piece of information I stumble across relating to QuickDraw McGraw. When the software finally does arrive, I simply open my IZE file and perform a search on the keyword QuickDraw McGraw. IZE, in turn, generates a listing of any notes containing that keyword. Armed with this information, I'm ready to install and run QuickDraw McGraw, already knowing most of what I need to investigate about that program.

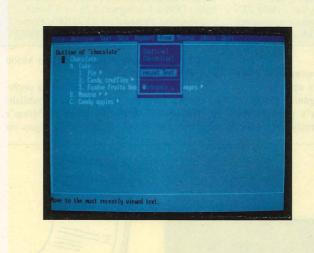
Up to this point, IZE may not sound vastly more significant than any decent word consultant whose two-person company,

review my schedule for the next couple of weeks. If I ask IZE to show me any information pertaining to this date range, the note about QuickDraw McGraw will appear there also, thus reminding me to be home to accept its delivery. Finally, let's say that I'm preparing to call this editor and I want to make sure I don't forget any salient points I feel the need to discuss. To do this, I perform an IZE search on his name and, voilà! My initial note once again is listed. As a result, I remember to thank him for sending me QuickDraw McGraw.

The most important thing to point out here is that I originally entered each IZE note with little regard for content or format. I worked as I was accustomed to working, rather than having to adapt my personal habits to the demands of the software I was using. Then, at the appropriate time, IZE itself superimposed structure on these seemingly random bits and pieces of information-that is, when I needed to recall and analyze them. In short, IZE matches my note-taking personality.

AT THE BOTTOM LINE, AN OUTLINE

Thom Moon, a Washington, D.C., media





If your work personality tends toward unstructured note taking, then an information manager such as IZE (the author's favorite) might be ideally suited to vou. Each note can be entered with little regard for content and format, and then IZE superimposes a structure (such as the outline above) on your seemingly random bits of data.

processor: I write notes and IZE regurgitates them back to me. The key to IZE, however (indeed, the key to any program you choose to help organize your work), is the flexibility with which you can analyze and manage information contained in its various notes from a number of different perspectives.

Suppose, for example, that I perform a second IZE search, this time using the magazine's name as my keyword. The Quick-Draw McGraw note I entered while talking to my editor would again be listed, but this time it would be within the context of any assignments I have committed to write for that magazine. Next, I decide it's time to

TGM Evaluations, analyzes listener trends in several major radio markets, takes an entirely different approach to organizing his tasks. Being a dyed-in-the-wool, self-described outliner, Moon views the world through indented headings. As far back as he can remember, his first step in organizing any project has been to put together a rough outline of the critical steps it involves. As that project progresses, he expands this initial outline to include more, and more detailed, information about its various phases. Sometimes, Moon admits, an original oneor two-page outline for a particular project can expand to near book length before that

The information managers mentioned in this article are listed below. I've divided programs not only by system (MS-DOS and Macintosh), but by their styles in managing data, which depend on personality type-list maker/note taker, outliner, scheduler. Please realize, though, that this division by personality works well only if you use it as a first step in choosing software for managing information. That's because most of the programs offer features that work for more than one personality type. For instance, while GrandView is best for outliners, it does have time-related elements to appeal to the schedulers. And, as indicated in the main text, Lotus Agenda—more than any other program listed here-straddles all three

MS-DOS

For List Makers/Note Takers

categories.

askSam v4.2 (\$295). askSam Systems, (904) 584-6590, (800) 327-5726. System requirements: 256K; one drive (hard-disk drive recommended); CGA, EGA, VGA, Hercules; DOS 3.0 or higher; 5.25- or 3.5-inch.

GOfer v2.0 (\$80). Microlytics, Inc., (716) 248-9150, (800) 828-6293. System requirements: 384K; one drive (hard-disk drive recommended); CGA, EGA, VGA, Hercules; DOS 2.0 or higher; 5.25- and 3.5-inch.

IZE v2.0 (\$495). Persoft, Inc., (608) 273-6000, (800) 368-5283. System requirements: 512K; hard-disk drive; CGA, EGA, VGA,

INFORMATION MANAGERS

Hercules; DOS 3.0 or higher; 5.25- or 3.5-inch.

Lotus Magellan v1.01 (\$195). Lotus Development Corp., (617) 577-8500. System requirements: 512K; hard-disk drive; CGA, EGA, VGA, Hercules; DOS 2.1 or higher; 5.25- and 3.5-inch.

MemoryMate v3.04 (\$70). Broderbund Software, (415) 492-3500, (800) 521-6263. System requirements: 512K; two drives (hard-disk drive recommended); CGA, EGA, VGA, Hercules; DOS 3.0 or higher; 5.25- and 3.5-inch.

Tornado v1.8 (\$100). Micro Logic Corp., (201) 342-6518, (800) 342-5930. System requirements: 256K; one drive (hard-disk drive recommended); CGA, EGA, VGA, Hercules; DOS 2.0 or higher; 5.25- or 3.5-inch.

For Outliners

GrandView v1.01A (\$295). Symantec Corp., (415) 964-6300. System requirements: 512K; two drives (hard-disk drive recommended); CGA, EGA, VGA, Hercules; DOS 3.0 or higher; 5.25- and 3.5-inch.

For Schedulers

DayFlo Tracker v1.4 (\$195). DayFlo Software, (714) 474-2901, (800) 367-5369. System requirements: 512K; two drives (hard-disk drive recommended); CGA, EGA, VGA, Hercules; DOS 2.1 or higher; 5.25- or 3.5-inch.

Primetime Personal v1.23 (\$100). Primetime Software, Inc., (714) 556-6523, (800)

777-8860. System requirements: 512K; two drives (hard-disk drive recommended); CGA, EGA, VGA, Hercules; DOS 2.1 or higher; 5.25- and 3.5-inch.

Who-What-When v1.09 (\$189). Chronos Software, Inc., (415) 626-4244, (800) 777-7907. System requirements: 512K; hard-disk drive; CGA, EGA, VGA, Hercules; DOS 2.1 or higher; 5.25- and 3.5-inch.

For All Personalities

Lotus Agenda v1.01 (\$395). Lotus Development Corp., (617) 577-8500. System requirements: 640K; hard-disk drive; CGA, EGA, VGA, Hercules; DOS 3.0 or higher; 5.25- and 3.5-inch.

MACINTOSH

For List Makers/Note Takers

GOfer v2.0 (\$80). Microlytics, Inc., (716) 248-9150, (800) 828-6293. System requirements: 512Ke; one drive (hard-disk drive recommended); System 4.1 or higher.

For Outliners

MORE II v2.01 (\$395). Symantec Corp., (415) 964-6300. System requirements: 1MB; hard-disk drive; System 4.1 or higher.

For Schedulers

Focal Point II v1.0 (\$200). TENpoint0/Mediagenic, (415) 329-7699. System requirements: 1MB; hard-disk drive; System 6.0 or higher.

project is completed.

When Moon decided to incorporate a personal computer into TGM's operations, he searched for software to organize the information about the company's projects that would emulate his own firmly entrenched

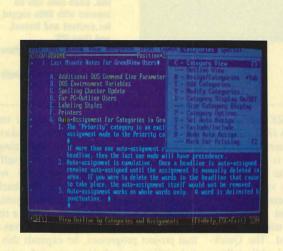
work habits. That search ended when Moon discovered *GrandView*.

Related to the earlier *ThinkTank*, a popular outline program from the same publisher, *GrandView* perfectly matches Moon's requirements. Now, whenever he signs on

for a new project, Moon simply goes into GrandView and creates a new outline. That outline can be as simple or as elaborate as Moon feels is appropriate at the time. Since GrandView lets him expand, contract, and reorganize the individual headings contained within any of its outlines, Moon edits a project file as needed—recording a meeting here, identifying a potential station contact there, and inserting important project dates virtually anywhere. Once an outline exists, GrandView lets him easily reorganize and analyze it from a number of different perspectives.

For example, Moon tends to structure his original outlines around task headings—items relating to research under one major heading, reporting activities under a second, and so forth. At any time, however, he can tell *GrandView* to reorganize a given outline based on any dates its individual entries contain, a process that requires only a couple of keystrokes. Doing so allows Moon to quickly analyze the project's timeline.

Moon is now able to stick to a single method, his familiar outlines, to manage the information his company needs to prosper, regardless of whether he's working with pencil and paper or at his computer's keyboard. He readily admits, however, that *GrandView* is a lot more powerful, and certainly more flexible, than his manual attempts at information management.





GrandView's basic form makes it a select choice for those people who tend to outline their tasks and ideas. However, since any GrandView outline can be quickly rearranged, the program is more than just an outliner. For instance, based on dates contained in its individual entries, you can reorganize an outline in order to set up a timeline for a project.



When your work is dominated by a schedule, you need informationmanager software that easily deals with timerelated details. Adding bits of information to Who-What-When files is comparable to recording appointments on a desk calendar. By letting you cross-reference—and automatically linkcalendar entries, the program also helps you assemble complete reports by name (who), activity (what), and dates (when).

TIMELY INTERVENTION

Tom Genslak, whom I introduced earlier, is a card-carrying scheduler—both he and his business tend to be time-driven. When Genslak needs to record an important piece of information, he calls up *Who-What-When*'s Calendar Screen (a familiar medium for people in this category) and uses it to record the person with whom that information is associated (who), the activity or project to which it pertains (what), and any critical dates it entails (when).

Again, as was the case with both *Grand-View* and *IZE*, *Who-What-When* demands very little in the way of planning while a record is actually being entered. For Genslak, adding information to his *Who-What-When* files is comparable to recording appointments on his desk calendar. While Genslak appreciates this familiarity, he needs the flexibility with which *Who-What-When* lets him retrieve and manipulate that information even more.

When Genslak had to check on his missing part, for instance, a quick search brought up the record of its initial order. Then, using Who-What-When's ability to link related information automatically, he quickly switched to a different record containing a profile of that part's vendor, which included the name of his assigned service representative. Genslak was even able to use Who-What-When to automatically dial this representative at the number listed in his vendor's record.

While the types of information Genslak must manage resemble those that both Moon and I work with on a regular basis, he settled on a different program to meet his personal information management needs. As

was the case with Moon and myself, Genslak's choice complements his work habits.

Thom Moon, Tom Genslak, and me. Three individuals, three different personalities, three distinct approaches to managing information. For each of us, the true strength of the software we chose lies in how it allows us to retain our familiar work habits. Computers adapting to people—the way it should be, rather than the way it often is—people being forced to adapt to their computer.

MORE WAYS TO MANAGE EVERYTHING

In addition to the three programs I've outlined here, other programs designed to help you manage information are available for each of my three personality types.

List Makers/Note Takers. Take note: You may also want to investigate *Tornado*, ask-Sam, and MemoryMate. Each of these MS-DOS programs begins with the basic premise of turning your computer into an electronic notepad, then incorporates additional features that enhance your ability to manage the information those notes contain.

For those people who need to retrieve information that they created with other applications from their hard-disk drive, a memory-resident text retrieval program such as *GOfer* is a good bet. Available in both MS-DOS and Macintosh formats, *GOfer* searches your files for any text string you specify, such as a client's name, and then lets you copy the information. For more sophisticated text retrieval (and several extra features, including hard-disk management) on MS-DOS computers, the Lotus *Magellan* package is worth a long look. (For more on Magellan, see the review on page 36 of our

November 1989 issue.)

Outliners. Your options are a little more limited. Although outline programs abound, none other running under MS-DOS include the features geared toward information management exhibited by *GrandView*. *MORE II* is one outline-oriented package available for the Macintosh. Although primarily designed to prepare graphic presentations (electronic slide shows), *MORE II* also includes a project-management feature that lets you organize information using the cutline paradigm.

Schedulers. On the other hand, if this is your crowd, choices are numerous. More and more so-called time-management programs are beginning to add general information-management features to their newer releases. DayFlo Tracker and Primetime Personal fall into this category. With Primetime Personal, for example, even though you enter records within an appointment calendar, these records can subsequently be organized by task, goal, and project. Primetime Personal even includes an automatic phone dialer for organizing your telephone contacts. On the Mac side, Focal Point II is another program that started as a time manager, but has since added the capability to organize more general information.

THE ULTIMATE INFORMATION MANAGER?

The most widely touted personal information manager might be Lotus Agenda. Truth to tell, it might be the most difficult to describe as well. Depending on which facet of Agenda you're looking at, the program can help people in any one of my three groups. For example, Agenda automatically understands such expressions as "Deliver the proposal two weeks from tomorrow." You can arrange categories hierarchically, perfect for those who outline everything. And, to suit Post-it personalities, you can simply enter text into Agenda as thoughts arise, and then retrieve them in a structured form.

Near as I can tell, this program was designed to emulate the work habits of Mitch Kapor, founder of Lotus Corporation. Given the man's success, this isn't such a bad paradigm; it just makes Agenda hard to categorize succinctly. If you combine traits from two or more personality types and you spend a lot of time managing a diverse range of information, then investigate Agenda. (For more on Agenda, see the review on page 30 of our March 1989 issue.)

THE CHOICE IS YOURS

So there you have it, a brief overview of information management. The one universal truth is that everyone needs it. What program you choose to help you organize important information, however, depends not only on the kinds of information you manage, but also on who you are.

Get the Picture: Putting Scanners to Work On Your Desktop

BY STEVE MORGENSTERN

The Basics . . . And Beyond. Plus: Reviews of Three Flatbed Models

urchasing a scanner is like giving your computer eyes. Scanner eyes capture pictures from the physical world, pulling them into the computer's digital world where desktop publishers can put them to work illustrating the documents they produce.

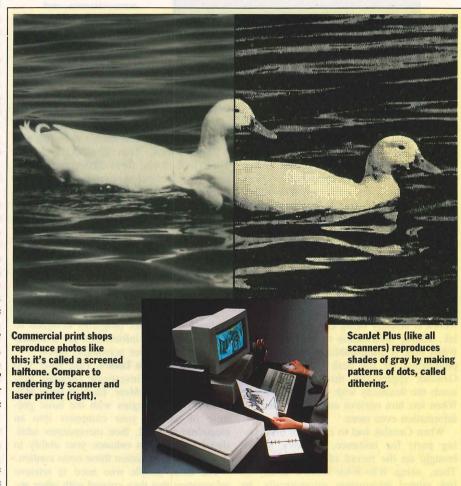
Working with scanned pictures is easy and fun. And you don't have to be a professional to get into this game. You don't even have to own a copy of *PageMaker* or *Ventura*, because most of today's full-featured word processors let you incorporate graphics.

But what types of scanners are available? How do these magical picture grabbers work? How magical are they? What's possible? What's practical? What are the limits? How does an experienced desktop publisher use scanned images? We'll explore all these topics.

THE SCANNER SPECTRUM

Scanners come in a variety of shapes, sizes, and price levels. At the low end of the price scale are the hand-held monochrome scanners. (Monochrome scanners can read color originals, but they give back only black-and-white output.) They are modestly priced (\$200 to \$750), with limited functionality. They scan relatively small areas, and accuracy of image capture depends on the user's dexterity. (See miniguide to hand-held scanners in the November 1989 issue, page 72.)

STEVE MORGENSTERN is a contributing editor for HOME-OFFICE COMPUTING.



Hewlett-Packard ScanJet Plus

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$2,190

With its 256 gray levels, the ScanJet Plus is suitable for high-end image editing and output tasks. But even if you plan to stick to simpler scanning projects, you will find advantages in this solidly built unit. The ScanJet produced good line-art scans and better photographic images than any of the other scanners I tested. One factor in achieving

these results was the precise brightness and contrast control provided. With 100 settings for each variable, I could accurately fine-tune the clarity of my final scanned images.

The ScanJet Plus boasts the best installation program and user guide of the units reviewed. The Microsoft Windows-based Scanning Gallery Plus software (included) is strong in scanning ease, dither selection, printing options, and file-format support, but offers minimal image-editing capability.

Motorized, sheet-fed scanners are larger and more costly than hand-held models. They read a letter- or legal-size page in a single pass and sell for \$900 to \$1,500.

But the tools of choice for most serious desktop publishers and designers are the more substantial, reliable, and full-featured monochrome flatbed models. These scanners represent a sizable investment: between \$1,200 and \$2,500 retail, depending on their speed, resolution, and ability to record shades of gray.

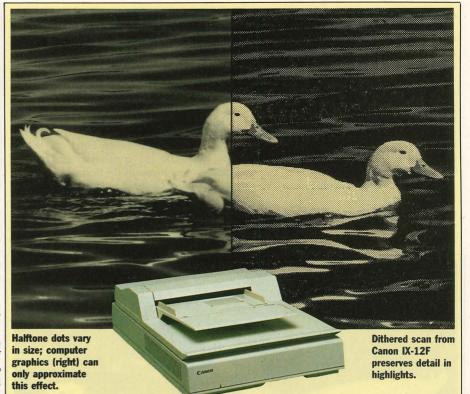
Finally, at the high end are some very costly scanning devices, including color-reproduction models that cost upwards of \$5,000; but at present price levels, these are tools for specialists. To my mind, a flatbed scanner represents the best price-performance choice in terms of reliability, flexibility, scanning accuracy, and overall reproduction quality.

THE TOTAL-SYSTEM PICTURE

It's important to understand that a scanner does not work in isolation. Like your eyes, it is only part of a larger system. For example, it is possible, using an off-the-shelf flatbed scanner and the right software, to create photographic reproductions as good as you'll find in commercial magazines, and many scanner advertisements dwell on this dazzling fact. What the advertising generally doesn't mention, however, is that, while the scanner can handle the input part of the job, output for work of this quality requires a typesetting, or imagesetting, device costing tens of thousands of dollars.

Just to keep this primer anchored in the realm of the practical (as opposed to the possible), I am assuming a "typical" working hardware setup—that is, one very much like my own: a 12-MHz 80286 computer with a VGA display system and a 40MB hard-disk drive, a laser printer, a flatbed scanner, and a software package to drive the scanner and save the image files it creates.

If you have a faster computer, fine. It will step up the tempo of your work. VGA display, in either standard or full-page size, lets you see shades of gray, which is desirable, but you could certainly get away with



Canon Image Scanner IX-12F

RATING: ★ ★

SUGGESTED RETAIL PRICE: \$1,740

The Canon IX-12F is capable of handling legal-size sheets of paper, but it's a bulky unit, taking up a lot of desk space. It will not create gray-scale files (the company's IX-30F model, \$1,595 plus interface, will), and it doesn't come with software—but most off-the-shelf scanning software in-

cludes a driver for the Canon unit. Factor in the price of software when figuring the total cost of the IX-12F.

Working with ZSoft's *Publisher's Paint-brush* software, the IX-12F produced good line-art scans. Dithered photo scans were exceptional in maintaining detail and rendering light tonal areas. Unfortunately, the scanner I tested occasionally left white lines in the image.

Hercules or EGA display. If you plan to store many image files, especially complicated ones, give serious thought to a hard-disk drive with 60, 80, or even 120MB capacity.

HOW SCANNERS WORK

Flatbed scanners look—and work, to a

certain extent—like desktop photocopiers. Original artwork (the material to be reproduced) is positioned facedown on a glass platen, and a bar with a light source and optical sensors moves along the picture, reading a digital representation of the image into your computer. With hand-held scanners, the user moves the light source and sensor. Sheet-fed scanners use motor-driven rollers to move the art past the stationary light source and sensor.

Although scanners are capable of doing many kinds of jobs (see sidebar, "Computers That Read," for example), the desktop publisher uses them—day in and day out—to create electronic pictures. Some of these pictures serve as finished illustrations, some as disposable working images.

ILLUSTRATION, LINE-ART STYLE

A scanner can view pictures in two ways: as line art or continuous-tone images.

Line art consists entirely of solid black

ABOUT THE REVIEWS

HOME-OFFICE COMPUTING has recently published reviews of three small hand-held scanners and one large hand-held/sheet-fed model (in the November and December 1989 issues, respectively). For this article, I took a look at three popular monochrome flatbed scanners, the kind most high-production desktop publishers prefer. This is by no means an attempt to survey the market; it's really just a taste of what's available.

Two of the three scanners covered came with scanning software—which I used in testing these units. I tested the third using a popular paint program. In reading these evalua-

tions, keep in mind that comparing three scanners driven by three different software packages is like comparing apples, oranges, and bananas.

Also keep in mind that the software that comes with a scanner is not necessarily the best software for you. It may work splendidly and do everything you desire—or it may hamper your creativity. To take full advantage of their scanner's capabilities, many desktop publishers invest in a full-featured image-editing package that does it all. Good examples of such programs are *Gray F/X* (Xerox, \$495) for MS/DOS and *Digital Darkroom* (Silicon Beach, \$395) for Macintosh.

and white areas with no in-between shades.

The basics of handling line art are simple for a scanner. The sensor passes over (or under) the picture and divides the image into thousands of individual dots, assigning each dot a value—either black or white. This information is stored in a digital file until you are ready to use the picture in a document. When the time comes to reproduce (print out) the image, the laser printer places black dots of ink at the appropriate places on the white paper; finished output should closely match the original.

When you need to reproduce a line-art illustration at a different size from the original, however, matters become a bit more complicated. It's simple to resize a saved image file using most desktop-publishing

packages, but line quality inevitably deteriorates. Enlarging the picture causes the dots that make up the image to separate; reducing it causes loss of detail—lines get thicker relative to the picture's white areas.

Most scanners are able to solve this problem by allowing resizing of an image—within limits—during scanning. The user specifies the desired size of the picture as a percentage of the original, and the scanner and software then assign black and white dot values to the appropriate areas. This produces an image of the desired size at the printer's maximum resolution. Quality is maintained, but at the expense of having to scan the original over again for every enlargement or reduction.

A scanner gives a publisher access to an

COMPUTERS THAT READ

One of the hottest topics in the microcomputer world today is optical character recognition (OCR). OCR uses a scanner and special software to read printed documents and turn the contents into editable computer text files. The significant recent developments in OCR technology have all been in the software end; scanners have been able to do their part for quite a while now. The news is that accurate, and affordable, OCR software has finally arrived. We will examine it in the depth it deserves in an upcoming issue.

enormous universe of line illustration. Of course, you're prohibited from using copyrighted material, but you can find plenty of copyright-free *clip art* (designer's jargon for anything you can just clip and reproduce). Check your library or the graphic-arts section of a bookstore for clip-art collections. The numerous volumes of high-quality copyright-free art published by Dover Books are a particularly rich resource.

ILLUSTRATION, THE GRAY AREAS

Scans of artwork incorporating colors or shades of gray pose more of a challenge than line art. This kind of pictorial material, which includes photographs, is often referred to as *continuous tone*. The term comes from photography, where shaded areas blend imperceptibly into one another, but covers any artwork made up of different shades of gray.

Most scanners can recognize different shades of gray and can include that information in a saved image file. Unfortunately, a laser printer can't print gray—just black. The best it can do is to approximate different shades of gray with patterns of black and white dots

Commercial printers have been doing something similar for decades. Most people have looked through a magnifying glass at a newspaper photo and seen the way the image is broken up into patterns of black dots on white. This is done by a photo-optical process called screening, which produces an image broken up into dots of different sizes. The result is called a *halftone*, and it's a very effective means of creating the illusion of continuous tones.

A key point to remember here is that the dots in a halftone vary in size. Standard laser printers, however, can print only one size dot, so you can't get true halftone effects using a scanner and a laser printer.

Still, there is a way for computer graphics systems to imitate halftone reproduction. It is called *dithering* and it works by grouping dots together into rectangular "cells" and varying the number of black dots within a given cell to approximate different shades of gray. Four-by-four-dot cells, for example, allow 16 densities, or shades of gray.



Ricoh RS320

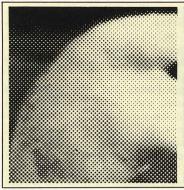
RATING: ★ ★

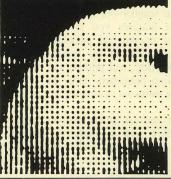
SUGGESTED RETAIL PRICE: \$1,499

This compact unit offers high-quality scanning with gray-scale file capability at an attractive price. The Ricoh produced the best line-art scans in my tests, maintaining an exceptional level of detail. Photographic reproduction was adequate, but in scans of both color and black-and-white photo originals, lighter areas sometimes washed out to blank white, even at the lowest available brightness setting.

The GEMScan software provided is easy to use and offers good image-editing capabilities, but has one significant flaw when teamed with the RS320: While the scanner is capable of producing gray-scale files, GEMScan will not capture them. You'll need another program to handle this task.

Although direct comparisons aren't possible—since software is a factor in determining scanning speed, and each scanner was tested with a different package—the Ricoh stands out as a fast performer, particularly when comparing times for scanning photographs.





Enlargement dramatizes difference between halftone (left) and fixed-dot digital output (right). Halftone's variable dot size creates a more effective illusion of continuous tones.

WHITHER THE DITHER?

Your scanner software lets you dither an image as you scan it. The result is a file representing your image as a fixed series of black and white dots arranged in patterns to simulate shades of gray. Most scanning software offers several dithering patterns; choosing the one that produces the best results for a particular original is pretty much a trial-and-error process.

Dithering while you scan is fine, as long as you scan the image to size, which means scanning the original each time you need to reproduce it at a different magnification. If you try to resize an image from a saved file, you encounter the same problem that occurs when resizing line art—the dots spread apart or clump together.

The alternative is to save the image as a gray-scale file. For each cell in the picture, a gray-scale file saves a value representing a level of gray rather than a fixed dot pattern. The image will still have to be dithered before it can be printed, but this task can be handled by the software at printing time.

The big advantage to saving images in gray-scale files is that you can reproduce a saved file over a fairly wide range of sizes without degrading final quality; the image will always be printed at the maximum resolution available on your output device. The disadvantage is that a gray-scale file contains more data than a dithered scan of the same image and takes up more room on your disk.

The ability to produce a gray-scale file is a function of both the scanner and the scanning software. The hand-held scanners on the market today simply can't produce gray-scale files. But most flatbed scanners (including two of the three reviewed in conjunction with this guide) do offer gray-scale file capability.

HOW MANY GRAY LEVELS DO YOU NEED?

A major selling point of flatbed scanners today, and a primary factor in establishing price differences between models, is the number of gray levels the scanner can capture. They range from two (simple black and white) to 256 levels of gray. How many

gray levels do you really need?

If you plan to output to a 300-dot-perinch (dpi) laser printer, the practical limit is 16 levels of gray. In simplistic terms, the dithering process reduces effective image resolution; more gray levels means a coarser looking picture.

This would appear to be a major limitation of working with scanners—and it is. So if high-quality continuous-tone reproduction is important to your work, do what I do: Have your print shop make traditional halftones. While it is possible to get similar results using a scanner and a sophisticated output device (see sidebar: "Glamour Scan-

ning''), halftones are considerably simpler and cheaper. For most desktop publishers, this route almost always makes more sense.

PICTURE-PERFECT PLACEHOLDERS

Frankly, I have yet to use a scanned photo image for final reproduction in my own professional projects. Even so, my scanner has more than earned its keep in the day-to-day requirements of document design and preparation of camera-ready mechanicals.

Scanned photographs are unbeatable as working images. When you import a scanned photographic image into your page layout, you can fine-tune cropping, sizing, and overall layout to your heart's content.

One of the wonderful things about desktop publishing is the ease and speed with which you can try out different design ideas. I'm not a trained designer, but I can recognize a reasonably good layout once I have it in front of me. My desktop-publishing software lets me tinker with the typography until it looks right. By adding a scanner to my system I'm able to experiment with the size and placement of illustrations in the same way.

Including sized photo scans on a page lets me see exactly where type will fall. I find

GLAMOUR SCANNING: PROSPECTS AND PITFALLS OF MAGAZINE-QUALITY REPRODUCTION

As discussed in the main body of this article, today's standard laser printers can't make effective use of more than 16 gray levels in reproducing continuous-tone art. So why do scanner manufacturers offer models capable of capturing up to 256 gray levels? The answer is high-resolution output devices—typesetting machines (also called imagesetters). These machines print images at resolutions between 1,270 and 2,540 dots per inch (dpi).

Using the dithering technique and grouping dots in 16-by-16-dot cells, 256 different densities or shades of gray can be achieved. Printed at 300 dpi, these 16-by-16-dot cells would give a resolution of about 19 cells per inch, very coarse and usable only as a special effect. At 1,270 dpi, resolution improves to nearly 80 cells per inch, approximately equal to newspaper reproduction. At 2,540 dpi, the result is a sparkling 158 cells per inch—better than most magazines.

Financial considerations and technical complexities limit the practicality of reproducing photos this way, though. Few home-based desktop publishers can afford the price (\$10,000 to \$20,000) of an imagesetter. Users can get around this by employing a service bureau to output their images. Unfortunately, there are problems with this solution too. Just getting your image file to a service bureau can be a challenge. Files with information for large numbers of gray levels are enormous, as much as 5MB for a 300-dpi image with 256 gray levels. How do you transport a file that size to

the shop? It won't fit on any standard floppy disk. This means optical storage, a portable hard disk, or time-consuming modem transfer, all costly solutions.

Even if this hurdle is successfully overcome, the cost of using a service bureau for this kind of work is a significant factor in itself. Printing digital-image output at high resolution is slow, and most service bureaus charge by the minute for this type of work. At one service bureau I use frequently, the fee is \$35 for the first eight minutes plus \$1.50 for each minute thereafter. The equipment at this shop took 42 minutes to output a 5-by-7-inch photo scan with 256 gray levels. Total cost for this job: over \$85! The bottom line is that you should be able to achieve the desired result by traditional halftone methods for a fraction of the price-

Several emerging technological developments promise to change this balance, however-although how soon is open to question. First, commercial imagesetters become significantly faster with each new generation. Second, 1,000-dpi laser typesetters are becoming available. Although currently around \$7,500, their prices will undoubtedly drop. Third, controller boards have appeared recently (including Intel's Visual Edge and Microtek's GLZ). They enable desktop laser printers to produce different sized dots-the beginnings of something resembling true halftone capability. It may not be long before desktop publishers can use all the scanner horsepower currently available without breaking the bank.

this indispensable when creating layouts in which type is wrapped around a graphic. Without an image on-screen, preparing this kind of layout is painfully tedious. With a scanned image in place, it's quick and easy.

Plus, when a project requires client approval, it's easy for me to present complete laser-printed output that provides an acceptable rendition of the final product using carefully sized scans positioned where half-tones will eventually go.

FP0

The working images serve as tools for the printer as well. Traditionally, publishers use photostats—crude photographic prints prepared at specified sizes—to indicate the position and cropping of illustrations for the commercial printer to follow. These are pasted down on the final mechanical and marked "For Position Only" ("FPO"). The printer substitutes correctly sized half-tones when preparing film for printing.

The total cost of photostats (typically \$10 a shot from an outside service) can be quite high. A scanned image—instantly available at virtually no cost—is a perfect alternative.

BUYPOINTS

For readers who may be planning to purchase a scanner and scanning software but have yet to take the plunge, here are some key points to consider:

HARDWARE FEATURES

- Number of Gray Levels. If you plan to reproduce continuous-tone art, your scanner will need the ability to read at least 16 levels of gray. Larger numbers of gray levels, and the ability to generate gray-scale files, may or may not be useful to you. (See discussion above and sidebar, "Glamour Scanning.")
- Resolution. Each of the scanners reviewed here has a maximum resolution of at least 300 dpi, which matches laser-printer output. Higher resolutions are useful for images that will be enlarged from a saved file. The availability of lower resolutions is important too, since it is frequently handy to make quick, low-resolution placeholders for desktop-publishing and graphic-design projects, for example.
- Brightness and Contrast Controls. Some scanners have only rudimentary image controls (brighter, normal, darker), while others offer a wide range of settings—up to 100 levels for each. Extensive control over contrast and brightness can make a dramatic difference in the quality of your final images.
- Size of Originals. Some sheet-fed and flatbed scanners can handle legal-size paper, while others are limited to 8.5-by-11-inch sheets.

SOFTWARE FEATURES

Most scanners today come bundled with

scanning software. If you need stand-alone software to run your scanner—or to supplement the software features you already have—a number of commercial packages are available that provide all the image-editing, scaling, dithering, and printing capabilities that desktop publishers need. In evaluating scanning software, consider the following:

- **Drivers.** While you can safely assume that software bundled with a scanner includes a driver for that machine, make certain that any other scanning package you're considering will work with your scanner.
- File Formats. The standard file format for scanned images is called Tagged Image File Format (TIFF). Desktop-publishing, image-editing, and OCR programs will all accept files saved in TIFF. However, several popular paint programs have their own formats. PCX, for example, the file format used by ZSoft's PC Paintbrush and Publisher's Paintbrush, is supported by a wide range of scanner and desktop-publishing packages. A variety of file formats provides flexibility.
- Preview Scan/Scan Selected Areas. More often than not, you will want to scan only a portion of a full page. The Preview

Scan feature allows you to do an initial, low-resolution scan, view the result onscreen, and select only the portion of the page you want included in your final scan.

- Dither Patterns. A broad selection of dithering options is a plus.
- Image Editing. The software provided with flatbed scanners varies widely in its image-editing capabilities. In some packages, these are limited to cutting, pasting, and resizing rectangular areas. Other packages allow you to edit dithered images dot by dot. The most sophisticated image-editing software provides the ability to retouch gray-scale files directly on screen, painting cell by cell in your choice of grays.
- Printout Capability. The rendition of the image you see on your computer screen is not detailed enough to accurately display the results of your scan. You will need to print out samples of the scan to really judge the image quality and make desired adjustments. Most scanner software lets you produce printouts directly from the program. If not, you have to exit from the scanning program, load your desktop-publishing program, import the image file, and then print it. If it isn't right, you'll have to backtrack and do the whole number again. ■

	Canon Image	OF FEATURE Hewlett-Packard	
	Scanner IX-12F	ScanJet Plus	Ricoh RS320
Manufacturer	Canon, Inc. One Canon Plaza Lake Success, NY 10042 (516) 488-6700	Hewlett-Packard Co. 19310 Pruneridge Ave. Cupertino, CA 95014 (408) 255-3619	Ricoh Corp. 3001 Orchard Pkwy. San Jose, CA 95134 (408) 432-8800
iuggested Retail Price: Scanner Interface	\$1,495 \$245	\$1,595 \$595 ¹	\$1,100 \$399
lardware Requirements	IBM PC/XT/AT and compatibles	IBM PC/XT/AT/PS/2 and compatibles; Macintosh	IBM PC/XT/AT compatibles
Maximum Image Size (inches)	8.4 by 11.2 ²	8.5 by 11.7 ²	8.5 by 11.7
Resolution (mini- num/maximum, lots per inch)	75/300	300	60/360
lumber of Gray evels	32	256	16
Gray-Scale File Capability (Y/N)	N	Y	Y
Density Levels brightness/ contrast)	3 (brightness only)	100/100	3/3
Oftware Included (IBM) (Macintosh)	None None	Scanning Gallery Plus Desk Gallery Plus	GEMScan, ScanDo ³ None
Automatic Document Feeder capacity/price)	20 pages/\$595	20 pages/\$595	N/A
Dimensions (inches)	14.5 by 21.5 by 3.5	13.6 by 18.9 by 4.2	11.4 by 19.4 by 3.7
Warranty (months)	12	12	12

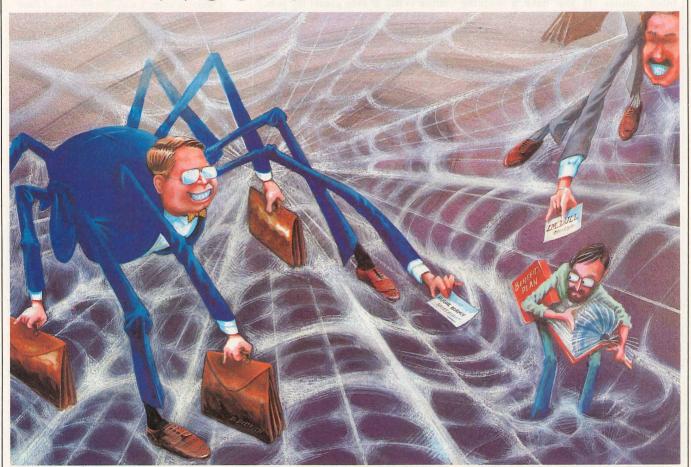
¹Interfaces available for PC/XT/AT, PS/2, and Macintosh, all at the same price. ²8.5 by 14, using optional document feeder. ³ScanDo will be included, as a special introductory offer—approximately through the first quarter of 1990—until supplies run out.

On My Own, Part II: BY COREY SANDLER



How an Independent
Put Together a Comprehensive
Insurance Package

A Web of Insurance



ike most corporate employees, I had no idea that I was surrounded by such a complex and expensive web of insurance benefits.

My previous jobs came with medical and dental insurance. "Sign here," the personnel people said. "This is your life insurance policy. You're covered for long-term disability, too," they told me with a smile. I signed and was covered.

And then I gave it all up. In January 1988, I walked out of the corporate cocoon and into my own home business. I suddenly had to shop for, understand, and purchase the insurance products I had always taken for granted: health insurance for myself and my family; additional life insurance to replace the employer-provided policy that had

been part of the standard benefits; disability insurance to cover loss of income in the event of a disabling illness or accident—something I realized is particularly important to a self-employed worker; and liability insurance to indemnify myself and my new company from possible claims related to my work.

All told, I am spending about \$6,735 per year for the various coverages (see "Author's Insurance Costs"). But before you go into shock over that number, consider the following:

• Since I'm incorporated, my health, disability, and professional liability policies are fully tax deductible from my business income. Less costly but still important lifeinsurance policies and personal-liability coverages are not deductible. (If you run your business as a sole proprietorship or partnership, only 25 percent of health and disability policies are eligible for write-off.)

- I had been paying for part of the health coverage provided by my former employer—\$750 a year for my health insurance, and none of it was tax deductible.
- I reveled in having control of my own destiny. I could purchase the most comprehensive (and expensive) medical, dental, and disability plans, or I could choose more modest coverages aimed at protecting me and my family in case of catastrophe.

THE BIG THREE: HEALTH, DISABILITY, LIABILITY

In my search for insurance, I consulted experts about what most consider to be the big three policies for the self-employed: health, disability, and liability.

Most insurance agents I spoke with were baffled by many aspects of my working situation. They all could sell me auto insurance and life insurance, but only some could sell me health and hospitalization insurance,

COREY SANDLER is president of Word Association, Inc., an editorial services company based in Holliston, Massachusetts. and even fewer could provide disability and professional liability.

I was most impressed by one local independent agent who researched companies and policies she had not sold before. She was also willing to work with a business-insurance agent in town to coordinate coverage.

I was told that before you sign up for health insurance, you should investigate two other options. If you have a working spouse, determine if you are covered, or could be, under his or her insurance plan. In my case, I am the sole provider for my family.

The other option is to continue your existing plan under the terms of the federal Consolidated Omnibus Budget Reconciliation Act (COBRA) of 1985. The COBRA requires that your employer extend your corporate health coverage for a minimum of 18 months and charge you no more than a 2-percent service-charge markup over cost.

The COBRA alternative wasn't a particularly enticing option to me. To begin with, my former employer offered an inclusive medical plan with a very low deductible. The price per month to continue that coverage would have been more than \$100 per month higher than less inclusive plans I could buy on my own. Second, the insurance carrier would limit my participation to the 18-month letter of the law because it did not write individual policies.

In Massachusetts, none of the big-name insurance companies seemed willing to write individual or small-group policies. Instead, I would have to work with considerably smaller and less well known firms. I considered Blue Cross an unattractive option because of its eight-month waiting period during which no major claims are honored.

SAMPLING SIX AGENTS

I ended up speaking with six different agents and memorized the basic questions they all posed: Was I a smoker? Did I have any preexisting medical conditions? Had I, or any covered family member, been to a doctor for any reason in the past five years? What kind of work did I do? Had I ever been refused insurance? It seemed as if they were looking for reasons to exclude any applicant likely to present significant

AUTHOR'S INSURANCE COSTS

All the following yearly insurance costs, except the life insurance, are payable by the corporation and therefore fully tax deductible.

INSURANCE TYPE

IIIOOIIIIIOE IIIE	
Health (family of four)	\$3,000
Disability	\$1,810
Life	\$475
Umbrella & Commercial/Professional	\$1,000
Worker's Compensation	\$450
TOTAL	\$6,735

claims. It was clear that this was a catch-22 strongly in the favor of the insurance companies. If I were to list a condition on the form, the company might not agree to insure me or might offer a policy with an exclusion that would not cover the condition. If I neglected to list an existing condition and later submitted a claim, the insurance company might discover the deception from my doctor or medical records and then might refuse to pay or even cancel my policy.

Next I had to decide how large a deductible to take. Health policies generally have two stages before full benefits are paid. There is often a straight deductible, usually in the range of \$50 to \$1,000, and then a coinsurance range, which often calls for the insurance company to pay 80 percent of the next several thousand dollars (the most common coinsurance I was offered was for the next \$5,000).

"You probably should consider something with a rather high deductible for a group plan, because premiums will be a lot lower," advised Melanie Marsh, a spokesperson for the Health Insurance Association of America (HIAA) in Washington, D.C. She suggested a \$500 deductible as a starting place for an individual or small-group plan, and that's the amount I chose for my policy. It costs me \$3,000 a year.

Dental insurance was something I happily accepted from my employer, but I declined to pay for it for myself. It was too costly and too limited in its coverage to make economic sense.

DISABILITY INSURANCE

And then I came to the subject of disability insurance. Life insurance pays my family if I die. Disability pays me and my family if I'm still living but not earning. Some policies cover only illnesses or only accidents; a self-employed person who is a family's only source of income should have both-accident and sickness coverage, said HIAA's Marsh.

The first tough question I had to answer when I began shopping for disability coverage was: How will the insurance company know if you are really too sick to work or if you are simply unable or unwilling to find clients or jobs? They call it, in the best military tradition, malingering. According to Marsh, "If you can show some history of consistently working over the years . . . they would be likely to consider you for coverage."

So I provided a detailed description of my work history and plans for my new business, and offered to provide copies of tax returns to insurance companies. I was able to find several disability specialists willing to write policies. They offered coverage amounting to about 60 percent of my projected take-home pay; since disability checks are tax free, that amounts to almost full coverage.

INSURANCE INFORMATION

A number of trade and independent associations offer information that may help in your search for insurance coverage.

National Insurance Consumer Organization, 121 N. Payne St., Alexandria, VA 22314, (703) 549-8050.

This nonprofit public-interest membership organization sells several books and newsletters, including Taking the Bite Out of Insurance: How to Save Money on Life Insurance, Buyer's Guide to Insurance: What the Companies Won't Tell You, and Consumer Alert: Coverages Not to Buy.

The Health Insurance Association of America, P.O. Box 41455, Washington, DC 20018; (202) 223-7780

This industry group offers a number of free booklets, including Consumer's Guide to Health Insurance and Consumer's Guide to Disability Insurance.

The Insurance Information Institute, 110 William St., New York, NY 10038, (800) 221-4954.

This institute, sponsored by more than 300 insurance companies, offers a range of pamphlets about property and casualty insurance, including Auto Insurance Basics, Home Insurance Basics, Home Security Basics, and 10 Questions Consumers Most Frequently Ask about Auto and Home Insurance.

I found disability policies themselves to be about as easy to read as the instructions for assembling a space shuttle. I ended up giving my business to the agent who was best able to guide me through the exceptions and allowances of the policy, which ended up costing me \$1,810 a year.

I finally thought I was through, until one agent asked me the name of my Worker's Compensation carrier. And here I entered a maze that would have made Lewis Carroll proud.

Does a home-office worker require Worker's Compensation coverage? I asked my attorney, who consulted a Boston specialist. "Yes, you should have it, since you are an employee of your corporation," he told me. "Do you have to have it? Probably not. But, if you have an accident at work, your health-insurance company will go down its list of exclusions and look for a reason not to pay."

I think I now understand: If I were in a sole proprietorship or a partnership with no employees, I probably wouldn't need Worker's Compensation and might not be able to get it anyway. But with an incorporated home business, I am an employee of that company and must have the coverage. So I got it, for \$450 a year. Some states will exempt chief officers. Talk to your attorney and your insurance agent.

Next month, I'll walk you through my new filing cabinet, bulging with paperwork and receipts I never had to collect before.

AW...What the Heck! We REFUSE to Raise Our Prices! DesignCAD 3D \$ 399

WE REFUSE TO RAISE PRICES!

"We have dealers-even from foreign countries—call and tell us they could sell a lot more DesignCAD3D at higher prices because some of their customers can't conceived a true 3D solid modeling program costing only \$399. They ask us to raise our prices because they know it's worth more, much more. But look at the history of our company: We just don't believe in inflated prices! An excellent CAD system shouldn't cost any more than a good word processor. So we still say, "Aw...What the heck! We refuse to raise our prices! Let's see the other guys beat this deal!"

WHY BUY THIS ONE?
There is a very important reason to buy DesignCAD 3D other than price: PERFORM-ANCE. DesignCAD 3D provides complete 3-Dimensional drawing capabilities. It's not a "warmed-over" 2D program. DesignCAD 3D allows you to draw any entity in 3-D space. This means, for example, that you can draw a curve in the shape of a spring. You can draw a circle or arc at ANY angle on ANY plane.

DesignCAD 3-D gives your Personal Computer the power of a mainframe CAD system! With DesignCAD 3-D, you can produce complete 3dimensional models and drawings that were once considered impossible on a microcom-

Complete 3-Dimensional design features make it easy for you to construct realistic 3-D models. With full solid-object modeling capabilities you can analyze you drawing to determine the volume, surface area or even center of gravity! DesignCAD 3-D even permits you to check for interference between objects! Aeronautical Engineers can now find the center of gravity for a new airplane design with a couple of keystrokes. The Architect can determine the surface area of a roof for decking in a matter of minutes. The Civil Engineer can calculate the volume of a lake or dam in seconds. The Mechanical Engineer will know for sure if certain parts fit together without interference. The uses for DesignCAD 3-D are only limited by YOUR imagination!

DesignCAD 3-D supports more than 400 different peripheral devices, including more than 250 printers (dot-matrix, laser printers, color printers, etc.), 80 plotters, most mice and digitizing tablets, and a wide variety of graphics cards and displays.

Once again, American Small Business Computers has proved that you don't have to spend a lot of money to get quality software. DesignCAD 3-D provides features such as Shading, Solid Object Modeling, Hidden Line Removal, and Cross Sectioning capability. All for only \$399. No other 3-Dimensional CAD system can come close to providing the price/performance of DesignCAD 3D.

VERY EASY TO USE!

DesignCAD 3-D has consistantly proven itself to be faster and easier to use than most competing CAD systems. In a national competition DesignCAD 3-D was matched in drawing speed by only one other CAD system. It cost \$3,000. DesignCAD 3-D was able to perform a given drawing in nearly half the time as packages costing up to \$5,000.

Customers frequently remark at how quickly they are able to learn DesignCAD. Many also comment about the power of DesignCAD.

Dr. Stephens of NASA states: "One of the things I like best fabout DesignCAD 3DI is that I can pick it up and go with it." Dr. Stephens, who evaluates and recommends software for purchase by NASA, says software must meet certain criteria: "One, it must work. Two, it must be user friendly and easy to use. I push it [DesignCAD 3D] as far as I can push it. We're not using it as a toy down here, and I resent the fact that some people believe that a product's ability is substandard because of its price."

Jan Hallett, an engineer at Allied Chemicall states: "We use it extensively here and are really sold on it. Plant layouts, pipe runs, fabrications, along with a lot of other things are drawn and designed. I've got AutoCAD, but very seldom if ever use it anymore."

PC MAGAZINE SAYS...

DesignCAD 3D, the latest featurepacked, low-cost CADD package from American Small Business Computers, delivers more bang per buck than any of its low-cost competitors and threatens programs costing ten times as much. For a low-cost, self-contained 3D package... DesignCAD's range of features steals the show."

HOW DO I GET ONE?

DesignCAD 3-D and DesignCAD 2D are available from most retail computer stores, or you may order directly from us. If you have questions about which program to purchase please give us a call. All you need to run DesignCAD 3-D is an IBM PC or compatible computer with 640 K RAM memory and a hard disk. Both products support most graphics cards, printers, plotters and digitizers. Free Information and a demo disk are available.

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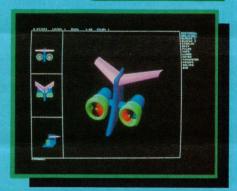
CIRCLE READER SERVICE 31

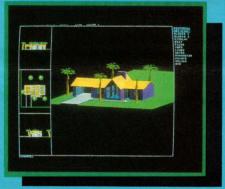
VERY POWERFUL!

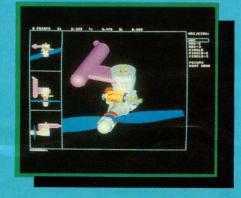
DesignCAD 3-D version 2.1 is as powerful as most CAD systems costing \$5000-\$10,000! Features like: Complex Extrusions, a true 3D color-coded cursor, full shading or rendering capability, Blending of Surfaces, Complex Sweeps and Translations, and Boolean Operations make DesignCAD 3-D one of the

most powerful 3-D CAD systems available...at any price! Engineers, Architects, and Consultants constantly tell us that they use CAD systems costing thousands of dollars which are not as powerful as DesignCAD 3-D.

BYTE MAGAZINE SAYS... "At \$399, DesignCAD 3D was the least expensive package we saw, yet it was one of the more powerful. ..Don't be fooled by the remarkably low price, this program can really perform!"







Supercomputers for Your Desktop

About Our Reviews and Ratings

Each month, HOME-OFFICE COMPUTING'S Hardware Reviews take an in-depth look at new and worthwhile computers, peripherals, fax machines, copiers, phones, and other hardware.

Our reviewers set up the equipment in their own home offices. After heavy use and extensive testing, they rank each item on the basis of suitability for the home office and on overall value, taking into account performance, features, ease of setup, ease of learning and use, documentation, size, expandability/versatility, support, availability, warranty, and value for the money.

Then, the HOME-OFFICE COMPUTING Hardware Testing Lab conducts its own battery of tests (a printer speed test, for example) and verifies manufacturers' specifications. Finally, our technical editors weigh the reviewers' rankings, the lab test results, and their own experience to determine an overall rating on a scale of zero to four stars:

0	Poor		
*	Average		
**	Good		
***	Very Good		
****	Excellent		

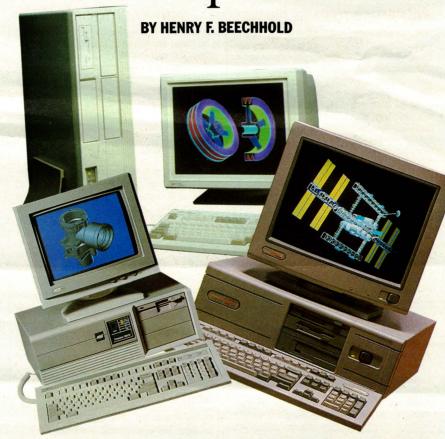
Note on Hardware Requirements:

Any product listed as requiring an IBM PC/XT/AT or compatible should also work with an IBM PS/2 Model 25, Model 30, or Model 30 286.

Reviews of Three 33-MHz, 386-Based Systems

Computers with the 80386 microprocessor are the fastest, most powerful MS-DOS systems available today. And with explosive 33-MHz 386-based computers now on the market, our comfortable old XTs and 286-based computers seem duller and duller. But do you really need a Le Mans contender to get around town? Or will the sturdy old hatchback do the job? In this case, the auto imagery applies: We're talking about computers

Contributing editor HENRY F. BEECHHOLD regularly reviews hardware for HOME-OFFICE COMPUTING.



These three 33-MHz, 386-based systems (clockwise from top: Zenith Z-386/33 Model 150, Compaq Deskpro 386/33 Model 320, AST Premium 386/33 Model 115V) are powerful but costly.

that cost as much as some cars. You could spend \$8,000 to \$15,000 for the luxury of 33-MHz computing.

For most home-based and smaller businesses, this kind of cost is unnecessary. The technology may be exciting, but the price tag is much too high. However, if your business is graphics intensive (computer-aided design [CAD], complex desktop publishing, or business graphics, for example) or you continually need to process large amounts of information (say, a database with more than 50,000 records), the benefits of the blazing processing speed of a 33-MHz 386-based computer may well offset the steep cost.

And they do blaze. My experience with 20- and even 25-MHz computers didn't prepare me for my first spin on a 33-MHz. Complex graphic manipulations appeared on-screen at speeds similar to those of minicomputers in the engineering lab of a major research university. I thought I heard the wind rush as I processed a series of complex

ABOUT THIS MINIGUIDE

The three 33-MHz 386-based systems in this miniguide are representative of the dozens of high-performance computers recently introduced. All of the systems are from reputable manufacturers of top-of-the-line products.

REVIEWED IN THIS ISSUE

Computers:

AST Premium 386/33 Model 115V Compaq Deskpro 386/33 Model 320 Zenith Z-386/33 Model 150

Hard-Disk Drives for the Macintosh:

Jasmine DirectDrive 100 Rodime Cobra 100e

SuperMac Technology DataFrame XP100

Fax Modem:

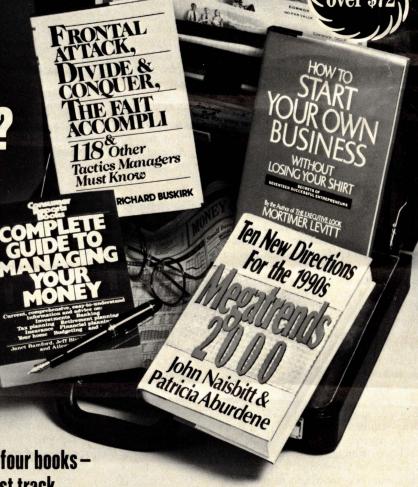
AppleFax Modem

Two-Line Answering Machine:

Panasonic KX-T1740

What fuels today's "PRONTAL ANTIACK" DIVIDE & CONQUER, THE FAIT ACCOMPLIATION Tractics Managers Must Know

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- · sound tips on personal financial planning

Together, these four books form the solid core of the professional library you'll be building as a member of Fortune Book Club.

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HARDWARE MINIGUIDES

three-dimensional graphs. I moved from the top to the bottom of huge text files instantaneously. Data searches, spreadsheet recalculations, and more pedestrian computing chores all happened in the blink of an eye.

With an expected drop in price as the new i486-based computers—faster than even these hotshots—come to market, a 33-MHz 386-based computer could become even more attractive to home-based power users.

The three systems reviewed here will put your computer operations into overdrive. All systems offer color VGA and computeraccess password protection.

AST Premium 386/33 Model 115V

SUGGESTED RETAIL PRICE: \$9,190

RATING: * * *

Among the early entrants in the 33-MHz game, the AST Premium 386/33 is now starting to feel the heat from the competition. Still, the 386/33 continues AST's tradition of solid design and high performance.

I suppose this is a prejudice of mine, but I think that the cosmetic coherence of a computer system says something about the care a company takes with its products. AST is one of those computer manufacturers that offer a truly integrated package—computer, keyboard, monitor, expansion boards, software, and manuals—all designed expressly to work together.

Getting the Premium 386/33 up and running was a snap thanks to AST's menudriven installation software. The user's manuals, which are clear and well illustrated, help you with the basics but don't provide a wealth of knowledge for the compulsively curious. For most users they are more than adequate, however.

The Premium 386/33's microprocessor is located on an expansion card instead of the motherboard. When some day your business demands still more computing power, you can easily upgrade the system just by replacing the 33-MHz 80386 microprocessor board. This scheme essentially provides a long-term guarantee against obsolescence and reduces the cost of upgrading.

AST's Premium 386/33 Model 115V features a solid 28-ms, 110MB hard-disk drive. For those who demand even more storage and performance, another \$2,000 or so could get an AST Premium 386/33 Model 325 that features a 28-ms, 320MB Enhanced Small Device Interface (ESDI) hard-disk drive. (Even at identical access speeds, an ESDI drive will outperform a standard hard-disk drive.)

The AST Premium 386/33 stands in the middle of the price range for this class of computer, yet offers good value in terms of design sophistication, appearance, and performance. This is a computer that should please anyone who demands 33-MHz muscle.

Compaq Deskpro 386/33 Model 320

SUGGESTED RETAIL PRICE: \$15,848

RATING: ★ ★ ★

Compaq's Deskpro 386/33 is a supersophisticated piece of equipment that should satisfy your thirst for computing power for some time to come.

Like AST, Compaq offers an integrated, solid system. The clean front panel boasts a power switch and status lights for power and hard-disk-drive activity. The enhanced AT-style keyboard has a crisp, pleasant response.

Compaq manuals are typically among the best in the industry, with most of the information presented in small, easy-to-grasp, clearly illustrated "bites." The 386/33's manuals are no exception. Compaq's installation software is another plus—as friendly as any I've used.

The Model 320 comes with a superfast 28-ms 320MB ESDI hard-disk drive. It's designed for people with a *lot* of data that has to be manipulated instantly. For those whose storage demands and computer budget are a bit more modest, Compaq's 386/33 Model 84 delivers the same speed and processing bonus, but comes with an 84MB hard-disk drive and costs \$4,500 less than the Model 320.

If your business demands a computer that at expensive overkill.

meets the highest standards in both design and technology, and if you can invest some serious cash for this wonderfulness, the Compaq Deskpro 386/33 Model 320 is your Jaguar. It's a high-performance status machine that's worth every penny you spend on it.

Zenith Z-386/33 Model 150

SUGGESTED RETAIL PRICE: \$10,299

RATING: * *

I confess to being a Zenith computer fan from the days of the H8, one of the first 8-bit microcomputers, which I built from a kit. And while Zenith's computer division is now a part of a large foreign conglomerate, the quality on which Zenith computers built their reputation prevails.

Zenith designates this computer as a 'high-performance workstation,' and so it is. Built like a truck, the 386/33 takes up a large chunk of desk space and makes its presence clearly audible as well (its fan is slightly louder than the other two units'). The enhanced AT-style keyboard is among the best around, with a splendid feel backed up by an electronic click (that can be turned off if you prefer). To my fingers, it absolutely matches the famous IBM touch. The front panel of the enclosure contains a lock and status lights for power and hard-disk access.

Getting the Zenith up and running was simple. The documentation isn't perfect, but it's extensive and thorough. Running the computer with Zenith's ZCM-1490-Z FTM flat-screen monitor and the supplied 16-bit video card produced dazzling results. This monitor will add about \$600 (at discount) to the system price, but I wouldn't go any other way.

Two models of the Zenith 386/33 are available, both with fast ESDI drives—one with 150MB capacity (the one reviewed here), and the other with 320MB. Both come with Windows/386.

This is a computer system well worth considering. For most home offices and small businesses, however, you're looking at expensive overkill.

33-MHz 386-BASED COMPUTERS: A SIDE-BY-SIDE COMPARISON

All suggested retail prices include MS-DOS, utility software, a color VGA monitor, a 1.2MB 5.25-inch floppy-disk drive, and a 12-month warranty.

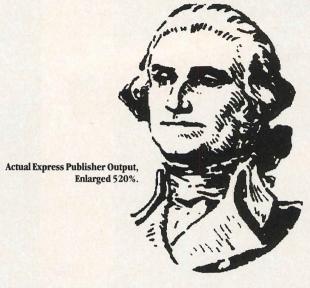
Company/Model	Suggested Retail Price	Hard-Disk Drive Capacity/Access Speed	Standard System Memory ¹	Ports	Available Expansion Slots	Additional Software Included
AST Premium 386/33 Model 115V	\$ 9,190	110MB/16 ms	2MB/4MB	Parallel, 2 Serial, VGA (16-bit)	5 AT, 1 PC	None
AST Premium 386/33 Model 325	\$10,940	320MB (ESDI)/16 ms	2MB/4MB	Parallel, 2 Serial, VGA (16-bit)	4 AT, 1 PC	None
Compaq Deskpro 386/33 Model 84	\$11,348	84MB/28 ms	2MB/16MB	Mouse, Parallel, Serial, VGA (16-bit)	5 AT, 1 PC	None
Compaq Deskpro 386/33 Model 320	\$15,848	320MB (ESDI)/28 ms	2MB/16MB	Mouse, Parallel, Serial, VGA (16-bit)	5 AT, 1 PC	None
Zenith Z-386/33 Model 150	\$10,299	150MB (ESDI)/18 ms	2MB/8MB	Parallel, 2 Serial, VGA (16-bit) Parallel, 2 Serial, VGA (16-bit)	3 32-bit, 1 AT	Windows/386
Zenith Z-386/33 Model 320	\$11,999	320MB (ESDI)/16 ms	2MB/8MB		3 32-bit, 1 AT	Windows/386

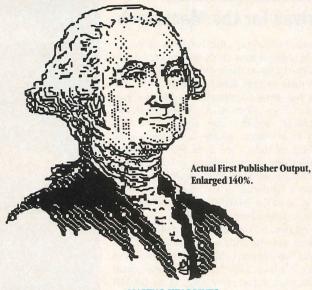
¹Memory that comes with the basic system/maximum amount of memory that can be added without using an expansion slot.

MANUFACTURERS

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Mass Storage for the Mac

BY JIM PHELAN

Reviews of Three External Hard-Disk Drives for the Macintosh

It wasn't so long ago that hard-disk drives for the Macintosh were an exotic and very costly luxury. In those days, I thought that 20MB was more storage than I could ever use. But that was before applications such as Page-Maker, Excel, HyperCard, Pixel Pop II, and Microsoft Works came along. Now that they're available, people use them—often several of them. The size and number of applications (not to mention system goodies) that Macintosh users have come to depend on make a hard-disk drive a virtual necessity today. And the 20MB that once seemed limitless is now a bare minimum.

Fortunately, because of technological advances and increased sales, the cost of hard drives has dropped sharply—for Macintosh users, it's been a drop from the astronomical to the more or less affordable. Many 100MB drives for the Mac cost less today than their 20MB counterparts did five years ago. There's also a wider variety of products to choose from.

To help readers sort through the numerous considerations that go into picking a hard-disk drive, I've posed some basic questions—and provided the answers.

Q. How much storage capacity do I need?

A. I suggested above that 20MB is a minimum for Mac hard-disk capacity these days. Most Mac users will be more comfortable with 40MB. (Besides, 20MB drives are becoming hard to find.) Those working with several large applications or many large data files, and especially those using sophisticated desktop-publishing software, will want a drive in the 80 to 120MB range. Users who store large catalogs of high-resolution graphics files or work with enormous databases could use drives with 200MB or more.

Q. How are capacity and cost related?

A. At my local store, a pint of milk costs 69 cents, while a quart costs 89 cents. Which do I buy? Usually the quart, even though I might not finish it before it goes sour. Similarly, a 20MB hard-disk drive might be adequate for your current working needs, but its cost per megabyte of storage is considerably higher than a 40MB drive's. The 40MB drive is probably a more cost-effective purchase,

JIM PHELAN is a home-based freelance writer living in New York City.



The cost of Macintosh hard-disk drives has dropped significantly. Shown here: SuperMac DataFrame XP100 (background), Rodime Cobra 100e (top), and Jasmine DirectDrive 100 (bottom).

even though you may not need the capacity at the moment.

As you move up to drives of higher storage capacity (the half-gallon and gallon sizes), the dollar-to-megabyte ratio drops still farther. Prices vary from approximately \$30 per megabyte for drives in the 40MB range down to \$12 per megabyte for drives in the 200MB range. (Of course the total price for a fatter drive will be higher.)

Q. What constitutes good performance in a hard-disk drive?

A. Speed. A fast hard-disk drive has an average access time of 18 milliseconds or faster and a one-to-one interleave ratio. Access time is how long it takes the read-write head to get to the data (or the place on the disk

ABOUT THIS MINIGUIDE

This miniguide is a small sampling of the many external hard-disk drive systems available for the Macintosh. It's not intended as an exhaustive survey, but rather as an exploration of concepts and features. The three drives reviewed here are reliable units from reputable manufacturers.

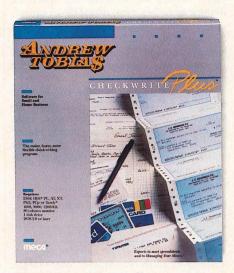
where it will be written). Smaller numbers mean greater speed. The interleave ratio is the number of revolutions it takes the drive to read all the data on a single track. This determines how quickly data is read or written. At a three-to-one interleave, it takes three revolutions to read or write an entire track. At one-to-one, reading or writing is continuous. Generally speaking, higher-capacity drives are faster than those of lower capacity, often by a factor of two or three.

Q. Should I buy an internal or an external drive?

A. If you're a Mac Plus owner, an external drive is your only choice; there's no space inside for a hard-disk drive. If you have an SE or SE/30, it is possible to have an internal drive substituted for one of the two floppy-disk drives (a dealer-only installation job). An external drive lets you keep both floppies and is user-installable. Anyone with a modular (II-series) Macintosh should probably choose an internal model as the primary hard-disk drive. After all, the space is there, and internal drives are several hundred dollars cheaper, byte for byte.

An external drive for a modular Mac

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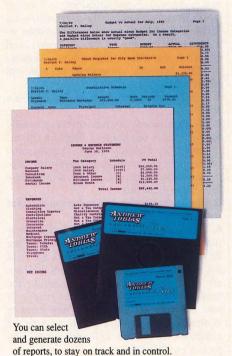
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HOC

HARDWARE MINIGUIDES

makes sense in several situations: as a second hard drive, as insurance for users who want to keep their data intact and accessible no matter what happens to their computer, and when it is necessary to move large quantities of data between computers in different locations

Q. Is it difficult to install a hard-disk drive in a Mac?

A. As mentioned, internal drives generally require dealer installation. External drives, however, are virtually plug-in components. Installation, partitioning, and formatting procedures may be necessary, but they require little or no expertise.

Q. Why do Macintosh drives come in different shapes?

A. To fit, physically, the different configurations of Macintosh computers. Many of the drives designed for compact Macs are built flat so that the computer can sit on top. There are also vertical drives that attach to the backs of the compact models, designed to fit into the carrying case. The free-standing vertical models sit on the desk next to the computer; these work well with either compact or modular Macs.

Q. Is there anything else I should consider?

A. You should also weigh reliability, manufacturer's reputation, and length of warranty.

Bundled software can also be a nice extra—if it's good and you are likely to use it. Each of the drives reviewed here, for example, provides a commercial backup program. But the inclusion of reams of public-domain programs should not necessarily weigh heavily in your decision.

The following reviews and chart provide background and vital statistics for three popular and readily available Macintosh harddisk drive systems.

Jasmine DirectDrive 100

RATING: ★ ★

SUGGESTED RETAIL PRICE: \$1,199

Over the years, Jasmine has built a reputation for well-made Mac peripherals—especially storage devices—at affordable prices.

The DirectDrive 100 is a low-profile, under-the-Mac design. Its performance is 10 to 15 percent slower than that of the other drives tested in this miniguide. This might seem appropriate, since it appears to be substantially less expensive than the other two, but there's a catch. The Jasmine drive is not discounted, whereas you can expect to find discounts of up to 40 percent on other Mac hard drives.

The package includes a wide selection of supplementary software—most notably Symantec's S.U.M. II, a valuable set of utilities that handles file recovery and file encryption. Jasmine's two-year warranty, supplemented by a 30-day money-back guarantee if you purchase directly from Jasmine, is a strong selling point.

Rodime Cobra 100e

RATING: ★ ★

SUGGESTED RETAIL PRICE: \$1,949

Rodime, the largest third-party provider of Macintosh hard-disk drives, has been manu-

facturing drives for other vendors for many years. Selling its extensive line under the Rodime name is a more recent development.

The Cobra 100e is slightly slower than the SuperMac unit but substantially faster than the Jasmine. The Cobra 100e, like the Jasmine drive, is designed to fit beneath a compact Mac.

The documentation for this unit is quite brief, but covers what the user needs to know. One extra feature I appreciate is an AC cord to connect the computer to one of the hard-disk drive's auxiliary AC power outlets. This gives the user one-switch system startup.

SuperMac Technology DataFrame XP100

RATING: * * *

SUGGESTED RETAIL PRICE: \$1,595

Probably best known for its color monitors and display cards for modular Macintoshes, SuperMac also offers a full line of hard-disk drives.

The DataFrame XP100 is the fastest of the three drives tested here, but only by a slim margin. It also has the fullest documentation I've seen for any hard-disk drive.

The XP100's compact vertical design enables it to fit neatly beside your Mac, whichever model you may have.

SuperMac includes print-spooling software, which lets you use your computer while a file is being printed out—a nice extra. However, the XP100 lacks the auxiliary AC power outlets that Jasmine and Rodime build into their drives.

THREE HARD-DISK DRIVES FOR THE MACINTOSH: A SIDE-BY-SIDE COMPARISON

Each of the units reviewed here comes preformatted, with system software installed. Each includes software for testing, formatting, and partitioning, plus a commercially available backup utility. Telephone technical support is available from each of the three manufacturers, but it's not toll free.

	Jasmine DirectDrive 100	Rodime Cobra 100e	SuperMac DataFrame XP100
Manufacturer	Jasmine Technologies, Inc. 1740 Army St. San Francisco, CA 94124 (415) 282-1111	Rodime Systems 901 Broken Sound Pkwy. Boca Raton, FL 33487 (407) 994-5585	SuperMac Technology 485 Potrero Ave. Sunnyvale, CA 94086 (408) 245-2202
Suggested Retail Price	\$1,199 ¹	\$1,949	\$1,599
Rating	**	**	***
Average Access Time (milliseconds)	22	18	19
Performance Ranking ² (among units tested)	Third	Second	First
Overall Performance (percentage of fastest)	85	95.5	100
Additional Features	2 AC power outlets	2 AC power outlets	None
Dimensions (inches)	9.5 by 10.5 by 2.5	9.7 by 10.5 by 2.4	3 by 9.5 by 8
Warranty (years)	Two	One	One
Additional Software Supplied	Symantec Utilities for Macintosh II (includes file recovery and encryption utilities); selection of shareware and public domain programs	FastBack (backup utility)	DiskFir (backup utility); file encryption utility; SuperSpool, LaserSpool, and SuperLaserSpool print spoolers

¹Jasmine drives are not discounted. Other drives can be found at discounts of up to 40 percent. ²Since average access time is not a definitive measure of overall disk performance, I ran a suite of real-world tests using off-the-shelf application software. Tests were run on both a 2.5MB SE and a 4MB IIx. Results were averaged. While they don't pretend to be rigorously scientific, the tests do provide some indication of actual performance.



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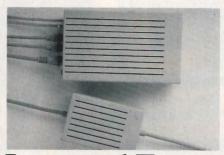
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A Mac Fax Modem and a Two-Line Answering Machine



Improved Fax Modem

AppleFax Modem

Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014; (408) 996-1010

RATING: ★ ★

SUGGESTED RETAIL PRICE: \$699

HARDWARE REQUIREMENTS: Any Macintosh Plus, SE, or II-series computer

COMPATIBILITY: Group 3

FAX SPEED: Transmits at 9600 bits per second (bps); receives at 4800 bps

MODEM SPEED: 9600 bps

RESOLUTION: Standard, 203 by 98 dots per inch (dpi); High, 203 by 196 dpi

(dpi), 11igii, 203 by 190 dpi

FEATURES: Pass-through port

SOFTWARE INCLUDED: AppleFax application and resource utility (version 1.2); letter-quality fonts

DIMENSIONS: 4.8 by 7.9 by 2 inches

WARRANTY: 90 days

When I used the original AppleFax Modem (essentially a fax board with data modem capability that doesn't fit inside the computer) last year, I was disappointed at its clumsiness and its general user hostility. Its overall performance was so poor, in fact, that Apple pulled the product off the market for a time in late 1988. For this reason I wasn't expecting much when I received the latest version, but I got more than I bargained for. The current AppleFax is much improved.

Like any other fax modem, the AppleFax allows your Macintosh to function as a fac-simile machine (minus the scanner). It translates Mac files into standard fax format and transmits them to any Group 3 fax machine (which is to say virtually any fax machine in the world). Like a fax machine, it also receives fax transmissions—as disk files.

The AppleFax Modem can also function as a data modem, letting you send Macintosh files at a blistering 9600 bits per second,

but only with another AppleFax,

The AppleFax connects directly to either the modem port or the printer port of the Macintosh. A pass-through connector is provided on the rear of the AppleFax for a data modem or a telephone.

Accompanying the AppleFax are application software and a resource file that must be installed in the System folder, plus three disks containing letter-quality fonts.

Receiving documents with the AppleFax is not nearly as convenient as sending them. The AppleFax application must be loaded and active for the system to be capable of receiving a transmission, so you have to know when a fax is coming; a typical standalone fax machine is always ready to receive. But you can get around this difficulty by using a software package such as *Back-FAX* (Solutions, \$245), which lets you receive in the background.

Overall, the AppleFax Modem is reasonably easy to use and is an acceptable value among Macintosh fax modems. However, other available units provide more utility at a substantially lower price. InterFax, from Abaton Technologies, for example, is a 4800-bps fax board and a 1200-bps data modem in one box for \$395.

The AppleFax Modem is certainly a much better product than it used to be, but unless Apple lowers the price or bundles it with *BackFAX* or some similar utility, it's still not worth it.

—JORDAN GOLD

CIRCLE READER SERVICE 101

Reliable Two-Line Answering Machine

Panasonic KX-T1740

Panasonic Company, One Panasonic Way, Secaucus, NJ 07094; (201) 348-7000

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$180

TYPE: Two-line answering machine

FEATURES: Tone remote control (beeperless), LCD readout, memo record, pause during playback, extended outgoing message, two cassettes, voice-synthesized time-date stamp

DIMENSIONS: 6.7 by 5.6 by 2 inches

WARRANTY: One year



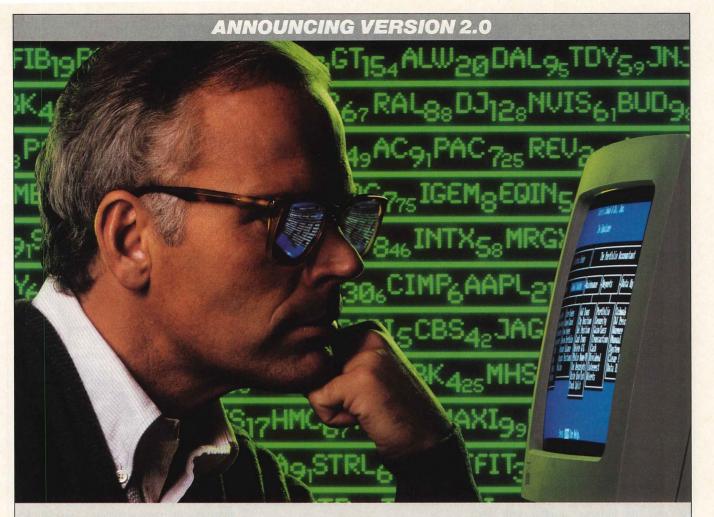
There was a time when the only thing I wanted an answering machine to do was answer the telephone, play my message, sound a beep, and record incoming messages. Not to mention that when I returned from wherever I'd been, I wanted the messages I'd received played back with reasonable clarity. If it did those things on a consistent basis, then it was a worthwhile answering machine. Today's answering machines can do that and a whole lot more.

The two-line Panasonic KX-T1740 is a top-of-the-line answering machine that does more than you'd expect. It performs the usual answering-machine functions with ease and gives you a wide range of other choices as well: You can connect it to either a multiline jack (two phone lines on one cord) or to two single-line jacks; you can have it answer either or both of the two lines (the same message plays for each line); and you can record conversations on either line (with the required beeps automatically inserted so your caller knows the conversation is being recorded).

A truly convenient characteristic of this answering system is that you can choose between two outgoing messages—a long one or a short one. You can also determine how long callers can talk—for as long as they like or for 30 seconds. All of these functions can be controlled from a touchtone phone by entering a security code.

My only complaint has to do with the placement of the playback controls—all on the right-hand side of the unit. This is a very compact unit and, since I'm right-handed, whenever I move the unit I activate one of the controls—sending the tape into either rewind, fast-forward, or playback mode. It's not a major problem (especially if you don't need to move the unit), but it would have been wise to put the controls in spots not favored by a heavy hand.

—STEPHEN MILLER CIRCLE READER SERVICE 102



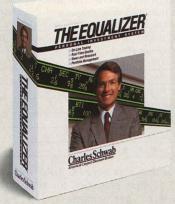
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A Potpourri of Programs To Organize and Protect Your Files

Plus: Finding Lost Files, Producing Automated Business Forms, and More

Our reviews of application software use shorthand to describe several of the details associated with any package. This is particularly true under "System Requirements"where the minimum system configuration is noted—so we have provided the following table of computers for you to refer to as needed. Hardware, software, and memory are required unless noted as "recommended" or "optional." When more than one computer is listed under "System Requirements," the machine marked with an asterisk (*) is the type on which the software was reviewed. Requirements are not listed where obvious (for instance, printers with word processors or modems with communications programs). Operating system requirements, such as MS-DOS or the Macintosh System file, are listed only when they're not the standard, minimum requirement (DOS 2.0 for IBM PC or compatibles, System 3.2 for the Macintosh, or ProDOS for the Apple II). For those computer systems that can use both 5.25- and 3.5-inch disks (IBM PC and PS/2 or the Apple II), we've listed only those disk sizes that are either supplied with the software or available at no extra cost from the publisher. Since most productivity software is not copy protected, we have indicatedwith the letters "CP"—only those programs that are copy protected. The version listed is the version reviewed; publishers may release subsequent versions at any time.

Designation	Models
128K Apple	IIe/IIc/IIGS (in IIe/c mode) and compatibles
128Ke Apple	IIe (enhanced ROM)/IIc/IIGS(in IIe/c mode)
Apple IIGS	IIGS only
IBM PC, PS/2	PC/XT/AT, PS/2 and compatibles
128K Macintosh	128K/512K/512Ke/Plus/SE/II
512K Macintosh	512K/512Ke/Plus/SE/II
512Ke Macintosh	n 512Ke/Plus/SE/II
1MB Macintosh	Plus/SE/II

Ratings Key: O Poor; * Average; ★★ Good; ★★★ Very ★★★★ Excellent.



PC Tools Deluxe manages your files, your harddisk drive, and your appointments.

A Toolbox Full of Utilities and **Productivity Enhancers**

PC Tools Deluxe

VERSION REVIEWED: 5.5

SYSTEM REOUIREMENTS: 512K IBM PC, PS/2; two drives (hard-disk drive recommended); mouse optional; DOS 3.0 or higher; 5.25- and 3.5-inch

PUBLISHER: Central Point Software, Inc., 15220 N.W. Greenbrier Pkwy., Beaverton, OR 97006; (503) 690-8090

PRICE: \$129

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★

ERROR HANDLING: ★ ★ ★

EASE OF USE: ★ ★ ★

SUPPORT: ★ ★ ★

Like an insurance policy, PC Tools Deluxe version 5.5 offers protection for those rare times when your computer lets you down—due either to computer or human error. As its name aptly implies, the program is a collection of tools to help you manage your files, your hard-disk drive, and your appointment calendar. Even if you only use the file-backup or disk- and filemanagement portions of this powerful program, you'll find it well worth the \$129 list price and will soon wonder how you ever got by without it.

No newcomer to the market, PC Tools dates back to the early 1980s. Designed to help you sidestep awkward DOS commands, the program has added ways to enhance system performance and simplify tedious computer-housekeeping tasks with each version. The latest version, Deluxe 5.5, also incorporates an outliner, a word processor, a database, an electronic appointment book, and a telecommunications module. While there are other programs on the market that perform similar tasks, PC Tools integrates the most commonly used utilities with an easy-to-use windowed interface.

A mouse makes PC Tools a breeze to navigate. Non-mousers can easily move around with cursor keys and pull-down menus or activate commands by pressing a single key—either a letter or a function key. Commonly used commands are listed at the bottom of the screen.

The program's file-backup function simplifies and accelerates the time-consuming task of backing up a hard-disk drive. For example, it took me 5 minutes, 20 seconds, and eight high-density (1.2MB) disks to back up 10MB of data.

The first time you use the backup feature, the program prompts you for drive and media types and saves the information. PC Tools lets you choose the extent and type of backup according to your particular needs. I fully back up my hard-disk drive once a month and do incremental backups at least once a week-copying only those files changed since the last backup.

The program estimates how many disks you'll need before you start and how long the backup will take. When backing up, you can also choose whether or not to compress data, which uses fewer disks. The actual number of disks and the time the process takes seem to vary considerably from the program's estimate.

For example, in a recent full backup of

37MB of data using no compression, PC Tools displayed a message telling me that it would take 11 minutes, 5 seconds, and 24 high-density disks to complete the job. The backup did indeed use 24 disks; but it took 18 minutes, 24 seconds. Even allowing 5 seconds for each disk swap, there's a 5minute difference between the estimate and actual time. Testing the option to minimize the number of disks, the program estimated that it would take 7 minutes, 18 seconds, and 16 disks. In reality, the backup took 38 minutes, 30 seconds, and 12 disks. (PC Tools spent some 20 minutes trying to compress EGA paint files; graphics contain a lot of information.) I'll admit, 5 minutes here or there is not going to throw off my busy schedule. But when estimates given in seconds turn out to be minutes off. I wonder about the pretense of precision.

For those computer users who have cheat sheets listing DOS commands taped to the sides of their computers, *PC Tools* eliminates the frustration of remembering "copy B:*.* C:," for instance, to copy files. You can display, in window format, one or two tree charts of different disks and one or two file lists of specified subdirectories. Then just highlight the file you want to copy, move, rename, delete, or even view. You

can view files in native Lotus *1-2-3* (except version 3.0), *dBase*, ASCII, or hexadecimal formats.

If you have ever accidentally deleted a needed file, you may be surprised and comforted to learn that deleted files are rarely truly deleted, but rather are renamed and rendered invisible. *PC Tools* lets you easily recover files you thought were lost in the Twilight Zone. If, however, you've saved a lot of new data since you deleted a file, it's possible that the new data has overwritten the sectors where your old data lived. In that case, even *PC Tools* won't be able to rescue you. Odds for successfully undeleting a file are always better the sooner you try to correct your mistake.

Similarly, to protect you in the event of a hard-disk-drive mishap, *PC Tools* also automatically saves a record of how your files were organized. If you have to restore files, *PC Tools* will easily be able to locate, undelete, and replace them—provided, of course, that the record is not destroyed in the disaster (or that you have saved it on a floppy disk).

Other capabilities you may find useful are Compress and System Information. Compress organized my hard-disk drive in a way that maximizes storage capacity and minimizes disk-access time. If you work with large files, Compress will shave a few seconds off the time it takes to load or save data. System Information tells you everything you would like to know about the guts of your computer, such as total memory or how many parallel and serial ports are installed. This information is valuable when you are considering a new software package and need to know how much memory you have, for example.

As I've mentioned, PC Tools also integrates a daily to-do list, a calendar with a notation feature and week-at-a-glance, and an alarm clock. The included database is compatible with dBase III Plus and dBase IV. It is adequate for keeping small mailing lists or client records. The program also includes an outliner and a WordStar-compatible text editor with search and replace and a spelling checker. There's a straightforward telecommunications program with macro capabilities. While these modules are not fully featured, they would be ideal for checking the date of an appointment with a client, dashing off a quick note to confirm the appointment, and then uploading the note to your favorite on-line service.

Call me old-fashioned, but while I've tried desktop organizers, such as Borland's

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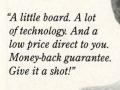
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TITLE/PUBLISHER PRICE/VERSION	SUMMARY	SYSTEM REQUIREMENTS	RA O	TIN	EU	S	
Personal Lawyer Bloc Publishing Corp. 800 SW 37th Ave., Suite 765 Coral Gables, FL 33134 (305) 445-0903 \$60 v2.0B	Personal Lawyer comes with seven legal forms, including a Statement of Guardianship, a Last Will and Testament, a Residential Real Estate Lease, a Promissory Note, Power of Attorney, Special Power of Attorney, and Revocation of Power of Attorney. The program is interactive, prompting your answers to fill-in-the-blank questions. Produces documents that are legal in all states (except for the will, which is not legal in Louisiana). Although not a substitute for a lawyer, the program may be useful for those who have simple needs or who have an interest in do-it-yourself law. —Brooks Hunt	256K IBM PC, PS/2. One drive. 5.25- or 3.5-inch	* * *	* * *	* * * *	* * *	
Professor DOS with SmartGuide for DOS Individual Software, Inc. 125 Shoreway Rd., Suite 3000 San Carlos, CA 94070-2704 (415) 595-8855 (850 v4.0)	Demystify DOS with this inexpensive package. Structured like a book, <i>Professor DOS</i> includes lessons on the most confusing features of the operating system. Comes with <i>SmartGuide for DOS</i> , which illuminates the features of DOS 2.1 through 4.0 for even the most DOS savvy. <i>SmartGuide</i> can be memory-resident to assist you from within other applications, although it tends to conflict with other pop-up programs. —Tan A. Summers	256K IBM PC, PS/2. One drive (two drives or hard-disk drive recommended). 5.25- and 3.5-inch	* * *	* * * *	* * *	* * * *	***
Arriba Good Software Corp. 13601 Preston Rd., Suite 500W Dallas, TX 75240 (214) 239-6085 \$195 v1.0	A first-rate organizational tool, <i>Arriba</i> contains desk accessories (similar to those in <i>SideKick</i>) such as a notepad, a calendar, a telephone book, a dialer, and a file manager that allows you to perform searches of your files and see alternative views of your file structure. The program can run either as a memory-resident program or as a stand-alone application. A steep learning curve and the lack of a cut-and-paste feature, however, rob <i>Arriba</i> of a four-star rating. — <i>Henry F. Beechhold</i>	384K IBM PC, PS/2. Hard-disk drive. 5.25-inch	* *	* *	* * *	*	* * *
Medley Milliken Publishing Company 1100 Research Blvd. P.O. Box 21579 St. Louis, MO 63132-0579 (314) 991-4420 \$195 v1.0	Desktop publish on your Apple IIGs with Medley. It's easy to learn and use and includes advanced features such as automatic text-flowing around graphics, kerning, spelling checker, and thesaurus. Printing is somewhat slow, although much speedier than in higher-priced desktop-publishing packages for the Apple IIGs. However, a delay between typing a character and seeing it appear on the screen mars overall performance. The publisher promises to fix this flaw in the next version. —Deborah Kovacs	1.25MB Apple IIGS (2MB recommended). One 800K drive (two drives recommended)	* *	* * *	* * *	* * *	* * *
Volkswriter Volkswriter, Inc. 411 Pacific, #315 Monterey, CA 93940 (408) 373-4718 \$199 v4.0	Midrange word processor includes Correct Grammar style and grammar checker, math capabilities, mail merge, and sorting. Correct Grammar, however, functions less than perfectly, missing very obvious mistakes. And screen and keyboard handling are quirky and unpredictable. For example, Pg Up and Pg Dn jump the document only half a screen—a bit off-putting. Undelete, another aberration, will not resurrect blocks of text that were deleted by highlighting and deleting (there is a warning about this in the documentation). Another problem is Volkswriter's interface, which is baffling: You have to jump between a main-menu screen and a screen where you compose your document. Laser printer support is minimal. All in all, Volkswriter incorporates several powerful features, albeit sloppily. —Ronni and Harry Geist	640K IBM PC, PS/2. Hard-disk drive 5.25- or 3.5-inch disks.	*	* *	*	* *	**

Ratings Key: O Overall Performance; D Documentation; EH Error Handling; EU Ease of Use; S Support; O Poor; * Average; ** Good; *** Very Good; *** Excellent

SideKick, I can't get too excited about a computer keeping my business calendar. I might be more open to these and the other modules of *PC Tools* if I didn't already have several full-fledged word processors, a spreadsheet, and a database.

Error handling is straightforward. If you ask the program to perform a function it cannot do, such as copy a file to a subdirectory that contains a file with the same name, you'll be cautioned by a short, loud beep and a message. On an EGA monitor, certain error messages and warning boxes appear in bright red—cautioning that you are about to perform an operation you might later regret.

If you're already a DOS user, you'll probably be able to figure out most of the program's everyday functions without cracking open any of the three softbound manuals. But if you do get stuck, you'll find the documentation straightforward and easy to use, although the index could be more helpful. For example, to locate Undelete you have to know to look under the listing "PC Shell," the program's name for the group of DOS utilities.

Unlimited free (but not toll-free) customer support is available 8 a.m. to 5 p.m. pacific time. I got through after three busy signals in two hours and, without iden-

tifying myself as a reviewer, found the representative knowledgeable and courteous.

If you are less than religious about backing up your files and tidying up your hard disk, *PC Tools Deluxe* is a wise investment. The program won't do all the work for you, but it will make it easier for you to keep your system insured against failure, and that may help you sleep better at night.

—TRISH KROTOWSKI

No More Hide-and-Go-Seek with Files

TurboSearch

VERSION REVIEWED: 1.0

SYSTEM REQUIREMENTS: 512K IBM PC, PS/2; two drives (hard-disk drive recommended); DOS 2.1 or higher; 5.25- and 3.5-inch

PUBLISHER: Ashton-Tate Corp., 20101 Hamilton Ave., Torrance, CA 90509; (213) 329-8000

PRICE: \$179

OVERALL PERFORMANCE: ★ ★

DOCUMENTATION: ★ ★ ★

ERROR HANDLING: ★ ★

EASE OF USE: ★ ★

SUPPORT: ★ ★ ★



No need to agonize over lost files. TurboSearch does the dirty work for you.

Once in a while, for various reasons, I lose track of disk files containing information I need. They end up on the wrong disk or in a different directory, and sometimes they just seem to vanish. Looking for a lost file requires tediously changing from directory to directory trying to spot the file. *Turbo-Search*, a program designed to automate the task of searching for and retrieving information, lets me quickly locate a file by name, by date, or by text string. I can also display a file's contents and search for words, phrases, or special characters, such as car-



riage returns, within the file.

Before you can utilize TurboSearch to sift through files, however, you must first use it to copy (or move) the files you choose from other directories (on any drive) into Turbo-Search libraries, located in the TSEARCH directory on your disk. Once they are copied into the libraries, the files, known as file archives, can be searched, displayed, and printed (but not edited) while you are in TurboSearch. A TurboSearch library can hold up to 3,072 file archives, and there can be up to 500 libraries in a TurboSearch library archive.

To begin using TurboSearch, I had to create a library made up of the files in the Textfile directory. I copied all the files from Textfile into the new library, then I tested out some of TurboSearch's searching and retrieving features.

I wanted to look for the file with a lost email message from someone I had met at an Apple user's group. From the pull-down Search and Retrieval Menu, I selected Search By Words and selected three words for TurboSearch to look for: Apple, User's, and Group. Searching through the dozens of text files in the library, TurboSearch found the lost memo in a matter of seconds.

I decided to give TurboSearch another

task. Since I couldn't find a conference file I downloaded from CompuServe last December. I instructed TurboSearch to find all the .TXT files saved in December. Bingo! Three files came up and one was called VONF.TXT. I must have hit V instead of C when I saved the file.

Once a search has been completed, TurboSearch lets you display all or part of the file archive you found on the screen or print it. If you are doing several searches, the files can be put into the Print Queue, where they can be held and then printed all at once (during a lunch break or meeting, perhaps). TurboSearch offers no special formatting capabilities and only prints what is displayed on the screen.

While TurboSearch is building a library of files, it is also building a dictionary of all the words found in the library. Since the dictionary contains every word found in the file archives, you can quickly determine if a word is in the archives by checking the dictionary. Let's say, for instance, you're looking for the name of a company you wrote a memo to. You think that the company name was Compu-something, but don't remember the exact name. To find the name, TurboSearch can check the dictionary for all words beginning with the letters Compu and display them. If you prefer to scan the dictionary list yourself, you can print a hard copy of the entire dictionary.

Some of TurboSearch's operations can run in memory-resident mode from within your other applications. For instance, while you are working on a word-processing file, TurboSearch can convert the file into a TurboSearch file, archive it, and copy it to the library you specify without disrupting you.

TurboSearch comes with free, unlimited technical support for as long as you own it. I called the support line to ask about a problem I was having creating a macro for automatically deleting old file archives and adding updated archives. After I sat on hold for a few minutes, a knowledgeable and polite person came on the line and clearly explained what I had to do. He also told me that Ashton-Tate runs a 24-hour, multiuser bulletin-board system to provide additional support. Calling the bulletin board, I discovered that I could leave questions to support technicians using an electronic-mail system. I left a few questions and they were answered when I called back two days later.

TurboSearch comes with a clearly written manual, both in hard copy and on disk in library form for easy referencing. Also included is a tutorial disk with plenty of

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In 1987, Virgil Miller was injured while performing his duties as senior deputy sheriff in Bakersfield, California. He was referred to a vocational rehabilitation counselor to help him get started in a new line of work. Miller had been videotaping weddings and school activities for friends as a paying hobby, so his counselor suggested learning video production. The training would have taken at least 14 months-that was too long

Then they discovered Video Data Services, a videotaping service that, for \$13,950, provided its franchisees with all the training, equipment, and marketing assistance needed to start a video photography and tape-transfer business specializing in weddings, product demonstrations, sales demonstrations, legal depositions, conventions, and computer graphics. After researching the company thoroughly, the counselor recommended that the county buy the franchise for Miller as part of his compensation.

Video Data Services offered Miller an opportunity to enter a field with explosive growth. Videotaping and transfer services commonly gross six figures a year and Video Data Services claims that anyone following its procedures full-time should be able to reach that income level within two years.

it. This is my second year, and it is already a fantastic one. I should reach the \$100,000 mark by the fourth quarter of 1989.

"I started this business full-time from day one," says Miller. "I like to tell my lawenforcement friends that I work only half days now that I'm my own boss. They turn green until I explain what I mean-8 a.m. to 8 p.m.." However, long hours are not a requirement, according to Miller. "A lot of affiliates start part-time until they feel secure. The company is great about that. They hold your hand every step of the way, teaching you marketing methods and giving you promotional materials." There are several specialized areas to go into, and Video Data Services teaches you to approach target markets one at a time until you know each one well. For instance, you might start by taping weddings. The company will provide you with tapes to run in a booth at bridal shows. FOR DETAILED INFORMATION: Contact Video Data Services

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business can easily be started on a part-time

"It's all up to you," says Miller. "If you They'll also give you a letter to send to follow the program, you should be able to do couples whose engagement is announced in the newspaper.

Miller has both consumer and commercial accounts. "I tape everything short of commercial TV: legal depositions, real-estate property, sports, graduations, even a video yearbook. I also do a lot of industrial work, like training tapes. For sales promotions, I'll videotape a company's products for the salesman to show customers on the road."

The graphics capabilities of his Amiga make it easy to put titles and credits on tape. "With the Amiga, I can digitize the image of a business logo into the computer, enhance it, clean it up, and put it right on the videotape. Most businesses are impressed with the product, and their satisfaction gets me more customers. Actually, I usually get three new customers from every job I do, just from word of mouth. It has been easy to turn a very good profit." Other new business comes from the franchisor, through directmail marketing, and the yellow pages.

Kern County helped Virgil Miller retrain for a new livelihood. For an investment of \$13,950, the county certainly got its money's

worth.
Article Reprinted From The June 1989 Issue Of"Home Office Computing."

sample files and libraries. The pull-down menus and comprehensive on-screen help (just press F1) make *TurboSearch* a great way to keep track of files.

—JOEY LATIMER

Design, Create, and Fill in Forms on Your Macintosh



SmartForm Designer creates your business forms; SmartForm Assistant fills them in.

SmartForm Designer and SmartForm Assistant

VERSION REVIEWED: 1.1

SYSTEM REQUIREMENTS: 1MB Macintosh; two drives (hard-disk drive recommended); System 6.0 or higher and Finder 6.1 or higher

PUBLISHER: Claris Corp., 5201 Patrick Henry Dr., Santa Clara, CA 95052; (408) 987-7000

PRICE: \$399 for both programs; SmartForm Assistant sold separately for \$49

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★ ★

ERROR HANDLING: ★ ★ ★

EASE OF USE: ★ ★ ★

SUPPORT: * * *

"The road to success is paved in triplicate," proclaims the advertisement for SmartForm Designer and Assistant. SmartForm Designer creates the forms; SmartForm Assistant lets you use them. The ad promises to reduce the toil associated with traditional paper forms by moving their creation and use to your Macintosh. The programs go a long way toward delivering on that promise.

Who needs electronic forms? Well, you do if you use large numbers of forms. But designing forms is time-consuming, especially if the form is very complicated and has a lot of data fields. If you use only a few different forms, the investment in time probably isn't worth the benefit you'll reap.

With *Designer*, you create forms using two basic sets of tools. The first set contains drawing tools for preparing logos and backgrounds. This set includes two line-drawing tools, another for adding text, and one each for ovals and rectangular shapes. The second set is data tools for creating fields (blanks) on your form. These include a ba-

sic field tool, which is used for setting up fields that will hold data such as names or numbers or text, and a special fields tool that is used to create a field which will automatically display a time, date, page number, sequential number, or part label. Part-label fields are for creating multiple-copy forms. This field's entry will change for each different copy. If, for example, you were making a form for a doctor's office, you could have one copy labeled "patient copy," another labeled "insurance copy," and another labeled "office copy."

There is also a tool for making columns and rows, as on an order form. Use another tool for repeating groups of fields and graphics, for printing several copies of a smaller form on a single page, like badges for a meeting or ID cards, for example.

Once you have drawn up your form, you'll need to add intelligence to it. You can create help messages, add a list of choices for any field on your form, or limit the type of data that you can enter into the field (to help prevent data-entry errors), such as allowing only 10 digits in a phonenumber field, for example. For forms requiring numerical data (such as expense reports), you can integrate mathematical computation. For example, you can program your forms to automatically total a list of numbers and enter the sum in a box below the bottom line.

SmartForm Assistant fills in your master forms and, if necessary, exports the information you entered on your form to your word processor, database, or spreadsheet. Unfortunately, you can only export data from one type of form (that is, one master form) at a time—very inconvenient if you work with different types of forms and wish to consolidate the information. When I discussed it with Claris's technical-support representatives, they indicated that this was a shortcoming that would be corrected in a future update. However, they didn't indicate when that update might be released. The support staff was polite and efficient.

The documentation included is excellent. Each of the three manuals is thorough and replete with examples. There are also excellent *HyperCard*-based tutorials for both programs.

SmartForm Designer and Assistant are very good forms programs. Both are easy to learn and use. But, as with all software, their usefulness will depend on your need for them. If you would like to fill in your forms on-screen, these programs are a worthwhile investment. Likewise, if you make frequent changes to your forms, SmartForm Designer and Assistant will save you time and money. However, if you only want to create hard-copy forms to be filled in manually, you'd probably be better off with a drawing program. —BROOKS HUNT

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How To Get Your Share Of The Riches That Lie Hidden in Your Computer!

(Battle Ground, WA) Using your home computer can be the key to financial freedom. The question is, how to start with little investment, part time.

Recently, this reporter heard about Ed Simpson, a 40 year old "computer maverick." Ed has just spilled the beans on 33 very profitable, low cost ways to make money with your home computer. Hereveals

priceless trade secrets that have been kept "under wraps" by a handful of men and women. For example...

· An Illinois fireman worked out a unique way to use his computer and now nets \$180,000 a year. Yet he's & barely scratched the surface.

• A retired teacher in Utah "plays games" with her computer and takes in \$35,000 a year. You too can have a ball while making extra cash.



ED SIMPSON

principle and earned \$150,000 in just 6 months. You can do the same thing.

- And, like this Florida lady, you can save a computerhardware user hundreds of dollars and earn as much as \$100,000 a year. Not bad for "after hours" work.
- Plus dozens of additional, private ways you'll discover to make surprising prof-

its with your home computer.

Do you want to learn how to escape the "payday-to-payday" ratrace? Ed Simpson invites readers of this column to preview his amazing collection of easy home computer business opportunities.

IT'S FREE!

To get your fact-filled report, simply send your name and address to Ed An 18-year old student came up with Simpson, Dept. C3, Battle Ground, WA this smart idea and made \$200,000! A \$98604-0771. Your package will be California man applied the same pet-expressed to you immediately.

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Learning and Leisure

The Magic Candle

SYSTEM REQUIREMENTS: Reviewed on 128K IBM PC, PS/2; CGA, EGA, VGA, or Hercules; 5.25- or 3.5-inch disks. Also for 64K Apple, C 64

PRICE: \$40-\$50; \$13 for clue book

PUBLISHER: Mindcraft Software, Inc., 2341 205th St., Suite 102, Torrance, CA 90501; (213) 320-5215

COPY PROTECTED: No

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★ ★

PLAY SYSTEM: ★ ★ ★

GRAPHICS QUALITY: ★ ★ ★

EASE OF USE: ★ ★ ★

Long ago the demon Dreax was imprisoned in the flame of a magic candle to protect the land of Deruvia from his evil. Secreted in Hidden Vale's Berbezza Fortress, the candle was watched by 44 guardians, who have mysteriously disappeared. If the candle melts and the flame dies, Dreax will escape. You must find and restore the candle.

This is a fairly standard plot for a computerized role-playing game, and the overhead-view graphics and simple one-word commands are reminiscent of the Ultima series. Nevertheless, The Magic Candle is delightfully different in little ways that keep popping up when you least expect them. As the months pass, Deruvian days grow longer and shorter just as they do in the real world. That's important, because shops—and city gates—close at nightfall.

However, it's the people who bring The Magic Candle to life. Each of the 25 readymade volunteers from whom you'll select your companions has a real personality and a trade. A good metalsmith will repair the party's weapons quickly, and a gem cutter will know how to get the most from merchants when it's time to sell the jewels you've found while exploring.

There's enough variety in The Magic Candle to keep players interested throughout the approximately 200 hours it will take the intermediate gamer to finish. But whether you're an expert adventurer or a novice, this magical world will charm you into many hours of enjoyable play.

-TAN A. SUMMERS

Revolution '76

PUBLISHER: Britannica Software, 345 Fourth St., San Francisco, CA 94107; (415) 546-1866, (800) 576-2276

SYSTEM REQUIREMENTS: 1.25MB Apple IIGS; two 3.5-inch disk drives recommended.

PRICE: \$50

COPY PROTECTED: No

OVERALL PERFORMANCE: ★ ★ ★ DOCUMENTATION: ★ ★ ★

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ERROR HANDLING: ★ ★ ★ ★
GRAPHICS QUALITY: ★ ★ ★

EASE OF USE: ★

You receive word from Philadelphia that there is a buildup of Redcoats on the outskirts of the city. What do you do? The war is costly, and your funds are running low. You need support from a sympathetic European nation. Whom will you send as your representative? Which nation(s) will be your best choice? These are only a few of the many decisions you must make in this simulation of the American Revolution.

Political, economic, and military strategies require the savvy of George Washington, James Madison, Thomas Jefferson, and Benjamin Franklin all rolled into one. But most important is your ability to walk the tightrope of diplomacy—uniting your troops, neutralizing opponents, and ensuring adequate foreign support without entangling your new nation in European affairs. Hints and advice pop up in windows when you make questionable decisions.

Must-read documentation includes two books: a Player's Reference and a Historical Perspective, which gives a chronological narrative of the Revolution, biographies of the historical figures involved, and a refresher course of long-forgotten events.

Don't expect to finish this game in one short sitting. *Revolution* is challenging and exciting, and it's a sound educational experience for both children and adults. Dazzling graphics and sound further enhance this engrossing historical simulation.

—JUDITH ZORNBERG

Learn About Animals

SYSTEM REQUIREMENTS: 128K Apple. Color monitor and mouse recommended. 3.5- or 5.25-inch disks. Muppet Learning Keys, Koala Pad, or joystick optional

PUBLISHER: Sunburst Communications, 39 Washington Ave., Pleasantville, NY 10570; (914) 769-5030, (800) 431-1934

PRICE: \$65

PUBLISHER'S SUGGESTED AGES: 5-8

COPY PROTECTED: Yes

OVERALL RATING: ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

ERROR HANDLING: ★ ★ ★

GRAPHICS QUALITY: ★ ★ ★

EASE OF USE: ★ ★ ★

Learn About Animals uses colorful animation to teach five- to eight-year-olds about nine different animals and their young. Ac-

tivities, selected from a picture-based menu, help children build reading, writing, spelling, and counting skills as they try to place animals in their proper homes, identify their food, help babies find their parents, and match the animals with their movements.

Correct answers receive animated visual reinforcement. For example, correct matches prompt the skunk to scurry into its den or the fox to chomp on the berries. Nothing happens when an answer is wrong.

Descriptive captions sometimes pop up on-screen with information about the animal scenes. There are also story-starter scenes, which kids can modify by adding clip art or text labels, and a place to mix and match animated body parts to design real or imaginary creatures. Finished projects may be saved to disk or printed out for coloring.

Learn About Animals is a well-designed program. It motivates young children to appreciate a variety of animals, as well as the environments these creatures inhabit. Liberal use of animated graphics enhances the presentation quality, but the absence of sound or musical reinforcement is noticeable. Nevertheless, the software succeeds because its open-ended activities leave plenty of room for exploration and growth.

CAROL S. HOLZBERG

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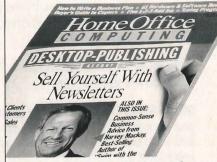
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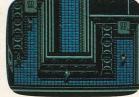
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Screen shown: Amiga®



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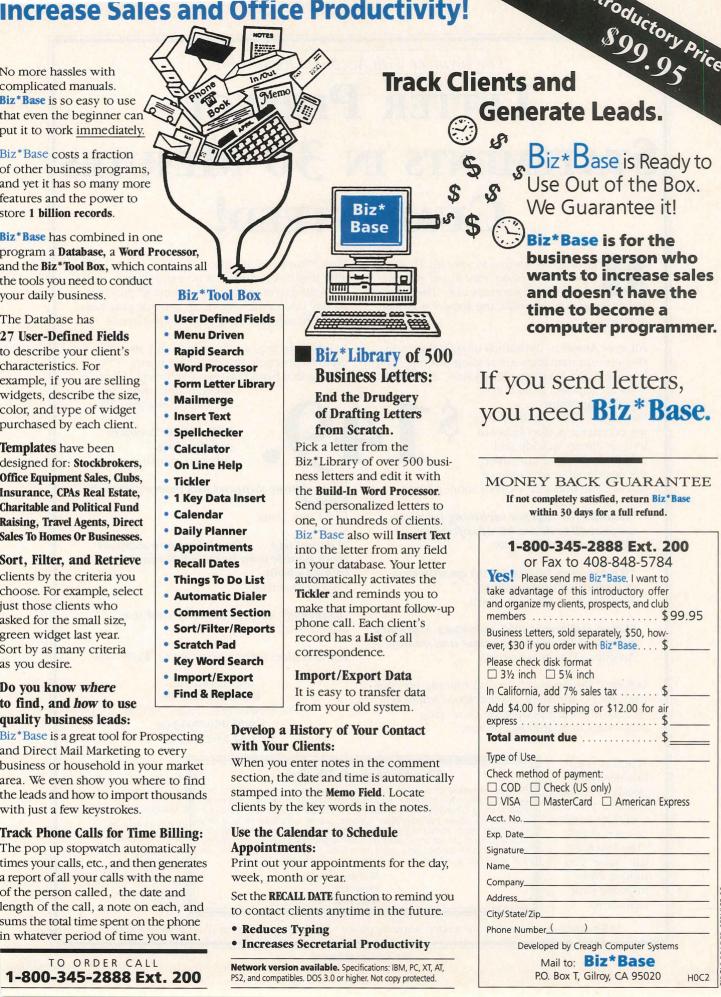
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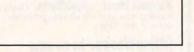
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Ergonomic Eyeshades

BY NICK SULLIVAN



I don't know whether it's because I work alone and am more aware of my surroundings or because I know I am responsible for feathering my own nest, but I seem to spend an

inordinate amount of time trying to refine my working conditions. I'm always looking for an edge that will give me more energy or time to work better and more efficiently. Recently, feeling myself fading in mid-afternoon, I went on an ergonomic rampage.

My first stop on this road into the brave new world of comfortable computing was the optometrist's. I told him I spent all day in front of a computer screen and was getting tired. Maybe my eyes were washed up; maybe staring into computer glare was like looking into the sun all day; maybe reading reams of dotty, smeary fax transmissions had overtaxed my ocular powers. Sailors need caps; maybe I needed shades.

The beady-eyed doctor, one of the more sullen creatures I've encountered, didn't respond to my maybes. He just put me in a chair and started the dreaded LWOEXYZ tests. My first instinct in that situation is to cheat, to somehow outfox the optometrist. But I couldn't figure out how to do it.

Of course I walked out of there with a prescription for ergonomic eyeshades. He said I was astigmatic—that one eye saw a square as a vertical rectangle and the other saw it as a horizontal triangle. This was news to me—I was sure I had seen a real square recently. I asked him if he thought a tint would help cut down the computer glare, which was my real purpose in coming. He said he didn't much believe in tints, but I could ask the optician.

The optician liked tints so much she gave me a double: One tint for computer glare, one for fluorescent lights. I don't have fluorescent lights in my home office, but I thought it was a nice touch. I'm treating these prescription eyeshades like the plastic goggles I wear when I use a chainsaw—as part of my work outfit. Industrial strength. Tough enough for any job. And it sounds better than saying I got a new pair of reading glasses.

NICK SULLIVAN is a senior editor who telecommutes from Massachusetts to the magazine's New York City office. He can be reached on CompuServe (ID: 76703,744) or MCI Mail (ID: NSULLIVAN).



The understanding optician gave me a double tint: one for computer glare, one for fluorescent lights.

The eyeshades are quite effective. I simply don't get as tired in front of the computer as I used to. I even have enough energy to work well at night. There are just two minor problems: Because of the double tint, I need more light in my office. The other problem (besides gales of laughter from my children) occurs when I'm using a phone—my ear presses against the frame of the glasses. Non-ergonomic! It's a very strange sensation. Thus, I use the speakerphone more often and am thinking of getting a Plantronics phone headset so I don't have to hold the phone receiver against my ear.

The immediate effectiveness of the eyeshades has moved me to make other improvements in working conditions. The first was attaching a Curtis copy clip to my monitor. When I transcribe notes from paper into the computer I no longer have to constantly bob my head down and up like a woodpecker; the monitor and paper are in front of me, at the same distance. And my desk is cleaner. This \$5 investment is already paying off.

The second improvement was replacing my dot-matrix printer with a laser printer. The print is much easier to read (and when I fax a laser-printed document, it's easier to read on the other end, too). And the laser printer doesn't make nearly as much noise as a dot-matrix printer, whose head banging can get very annoying.

It's amazing how easily I've let myself adapt to shoddy working conditions. Equally amazing is the vast improvement small changes can make. I finally moved my desk so that my bulletin board was in the open, and that bulletin board now has a full-time job—it harbors items I don't know where to file. I moved the computer from the middle of the desk to the side and got more legroom and desk space.

What has spurred my interest in finding more ergonomic work methods is not merely a desire to be more comfortable at work. I'm not looking for a cushy setup. It's to fend off more serious long-term disorders that might affect my ability to work, or work well. Like an athlete who trains during the off-season to prolong his or her career, I realize that I can't just sit in a chair every day for the rest of my life operating electronic equipment and expect peak performance without mentally and physically preparing for it.

I have read too many stories lately about cumulative trauma disorders (such as carpal tunnel syndrome), musculoskeletal injuries caused by the strain of repetitive motion. I have heard too many people complain about sore necks and elbows, and eyestrain. And I have felt my backbone creak and settle when I get up from a long stretch in my desk chair (which is a very good ergonomic chair).

And if you are sick of the term ergonomic now, I predict you will need cotton in your ears in the 1990s. Computers have been in wide use for about the past 10 years, and the people who started using them in that time have been primarily in their twenties and thirties. (People over 40 initially resisted computers, though that is now changing.) A 25- or 35-year-old can sit in a chair every day for a few years without many side effects. But a 40- or 50-year-old who has been sitting in a chair every day for 10-plus years is going to feel it.

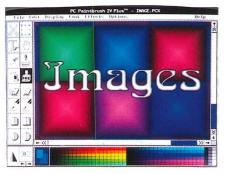
If I feel well, I work well. All my changes are paying off now, and I hope they will over the long run. Meanwhile, if I feel my blood sugar dropping in mid-afternoon, I just head for the kitchen and sneak a few semisweet chocolate chips out of the baking cabinet. Eyeshades and chocolate, the perfect home-office recipe.

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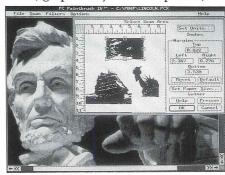
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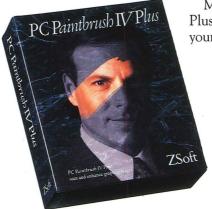
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